

# WATER

Reference: CS-05

**Sustainable water resources management which protects the environment whilst encouraging economic development and maintaining public water provision responsibilities is a pre-requisite to sustainable development. GWP Consultants LLP (GWP) provide hydrogeological, hydrological and water governance expertise to clients across the UK and overseas on a range of issues:**

## Groundwater Management

- National and aquifer scale planning
- Regional groundwater resources assessment & management
- Private and public, urban and rural, groundwater development and potable water supply
- Borehole design and specification
- Borehole drilling, construction, testing, and development supervision
- Pumping tests & well yield assessments
- Specification/supervision geophysical surveys
- Sustainable yield & over-exploitation assessments
- Freshwater lens & saline intrusion studies
- Water supply vulnerability assessments



## Surface Water Management

- National & river basin planning
- Surface water resources assessment
- Design and implementation of surface water monitoring programmes
- Catchment characterisation and modelling
- Intake design and low flow assessments
- Reservoir, dam design and leakage assessment
- Abutment and embankment geotechnical stability
- Water treatment and disposal
- Rainwater harvesting assessment and design
- Hydraulic design and specification of pump and pipe networks
- Geomorphological assessment and design



## Water Resources Protection

- Assessment of vulnerability for aquifer and source protection
- Environmental impact assessments (over-abstraction, de-watering and excavations) and mitigation design
- Groundwater contamination investigation and remediation
- Effluent disposal impact assessments
- Landfill risk assessments
- Mine water rebound and treatment studies
- Mine tailings and waste contamination assessments





## Flood Management

- Flood risk assessments
- Rainfall return period analysis
- Catchment rainfall-runoff modelling and flood peak evaluation
- Flood modelling & production of flood hazard maps
- Evaluation and design of flood mitigation measures including watershed management
- Hydraulic design of water management structures including, attenuation ponds, settlement lagoons, infiltration systems, weirs, channels *etc.*
- Quarry and landfill wastewater & drainage design



## Mineral and Spa Waters

- Spring yield and vulnerability assessment
- Mineral water characterisation and monitoring
- Source abstraction design & development
- Low flow analysis
- Water quality protection
- Abstraction licences, protection indemnities, private abstraction agreements
- Operator training and capacity building



## Groundwater Control & De-watering

- Quarry and civil construction de-watering
- Investigations and dewatering design requirements
- Environmental impact assessments and Discharge consents
- Construction supervision and monitoring programmes
- Groundwater pressure studies for ground uplift/blow-out prevention
- Landslide risk assessment and slope stabilisation



## Water Governance

- Sector policy and strategy development
- Sector and resources planning
- Legislation review
- Institutional reform and strengthening
- Integrated water resources management
- Watershed planning and management
- Climate vulnerability and adaptation
- Education and awareness programmes



### Key contact:

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