Entec

Creating the environment for business

Minerals Wetland Restoration, Needingworth

Hanson Aggregates

Hydrological and geotechnical impact assessments

In 1994 Hanson Aggregates were granted planning permission for a major mineral extraction (processing ~1Mtonne/annum over 25 years plus) and restoration scheme at Needingworth / Over, near Earith in Cambridgeshire. The original restoration scheme entailed low level agriculture, openwater and limited wetland creation. Entec was engaged to undertake hydrological and geotechnical impact assessments and designs to support the scheme also including a conjunctive water resources scheme to service the mineral processing plant.

Throughout the determination of the planning application and in the years that followed grant of permission the RSPB and other major conservation organisations lobbied very hard to seek an alternative restoration for the scheme seeing an opportunity to create a major 500 ha (plus) reed-bed wetland habitat suitable for bittern located immediately adjacent to the Ouse Washes (RAMSAR, SPA cSAC). Hanson undertook a feasibility assessment of the alternative restoration concept and in 1997/98 decided to formally persue the revised plan. This is the largest wetland creation scheme in the UK and one of the largest in Europe contributing very significantly to habitat creation objectives for the UK both at a regional and national level. In general, the agreement reached between Hanson and RSPB means that Hanson has responsibility for design and implementation of the scheme infrastructure prior to donation of the site in phases to the RSPB who will then have responsibility for its maintenance and operation.

In 1998 Entec was engaged by Hanson Aggregates to undertake hydrological and geotechnical based designs and impact assessments for the scheme working closely with the RSPB and their consultants (QUEST and Posford Duvivier) as well as the Environment Agency (EA) and the local IDBs. The main areas of work undertaken by Entec include:

- Hydrological (and some geotechnical) impact assessments with focus on the River Great Ouse, IDB land drainage, the Ouse Washes and Berry Fen SSSI with respect to extraction and restoration proposals (including construction/operation of the proposed river intake from the River Great Ouse).
- Geotechnical (phased) design of the internal bunding and perimeter bund/supply channel for the main reed-bed scheme.
- Engineering design for the major intake from the River Great Ouse to the reed-bed.
- Conceptual (and phased) design for the operation and water distribution and drainage systems needed to service the reed-bed and link it with river supply and IDB drainage networks.

Output has included a very detailed input to the ES plus ancillary designs in support of Hanson Aggragates planning application. Additionally support has been provided to Hanson to secure land drainage consents from local IDBs for miscellaneous works and from the EA for the river intake structure.