Coordination and nature conservation processing

NLWKN (Land agency for safe dykes, clean water and maintaining biodiversity) GB IV „Nature Protection“

Walter Schadt, PhD. Claus Hinz (coordination),

Heinrich Pegel

Hydraulic Engineering

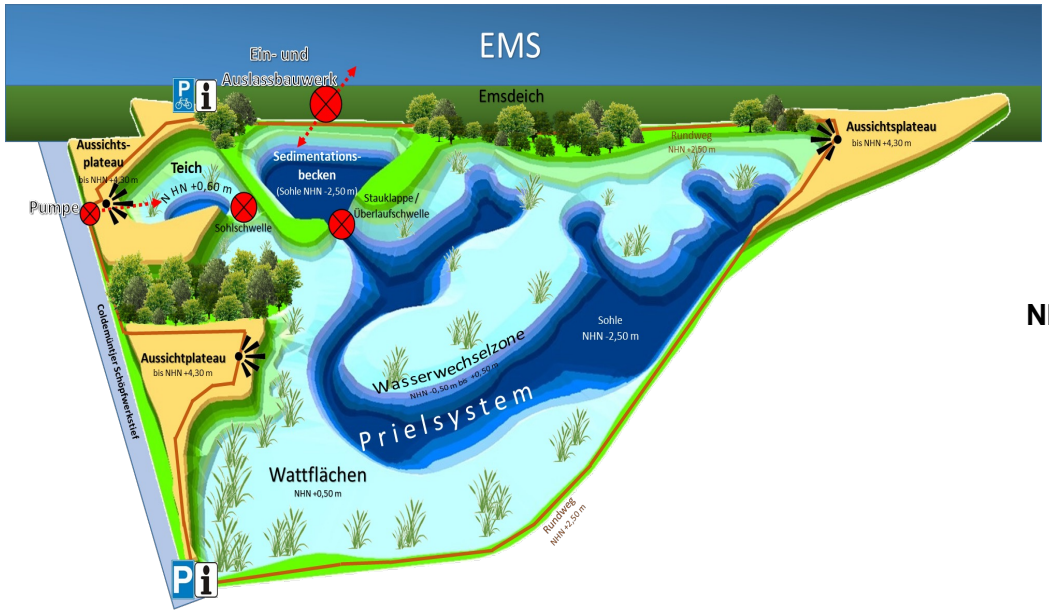
NLWKN GB II „Planing and Construction“

Henning Paulsen-Jacobs, Mike Stöter

Expert advice: hydraulics und hydrochemistry

NLWKN GB III „Water body and river basin management “

Dirk Post, Dieter de Vries, Andreas Engels



Masterplan Ems 2050

Tidal polder Coldemüntje
Restoration of tidal wetlands

Climate adaptation in deltas II: Wetland restoration
28. June 2023

Tidal area of the Ems today - issues

- **Slit problem (fluid mud)**
- and low water quality

Canalisation

- Deepening
- Straightening

-> Large tidal range, with pronounced flood current

- Dykes and summer dykes
- Bank enforcements

Master Plan Ems 2050?

Tidal area of the Ems in a **bad status** (Natura 2000, WFD)

EC infringement procedure

Avoid?!

Admistration, conservation associations, largest company relying on the waterway

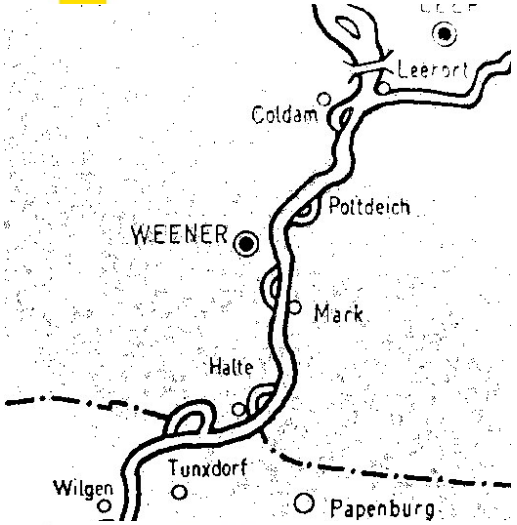
Objectives of the Masterplan Ems 2050 (Ecology and economy):

1. Resolving the slit problem
2. Improving water quality
3. **Improving estuary habitats (5 km²+x)**
4. Protecting (Grass)birds and their habitats (2 km²)
5. Maintaining the Ems as an efficient federal waterway

Financing:

Federal state Lower Saxony and Federal republic Germany

Ems and tidal polder Coldemüntje



Historic development of the Ems and the flow loop near Coldemüntje

[Ostfriesische Landschaft 2015, Preussiche Landesaufnahme 1898]

1939 [Archiv Rubach u. Partner], 1962, 2015 [LGLN]

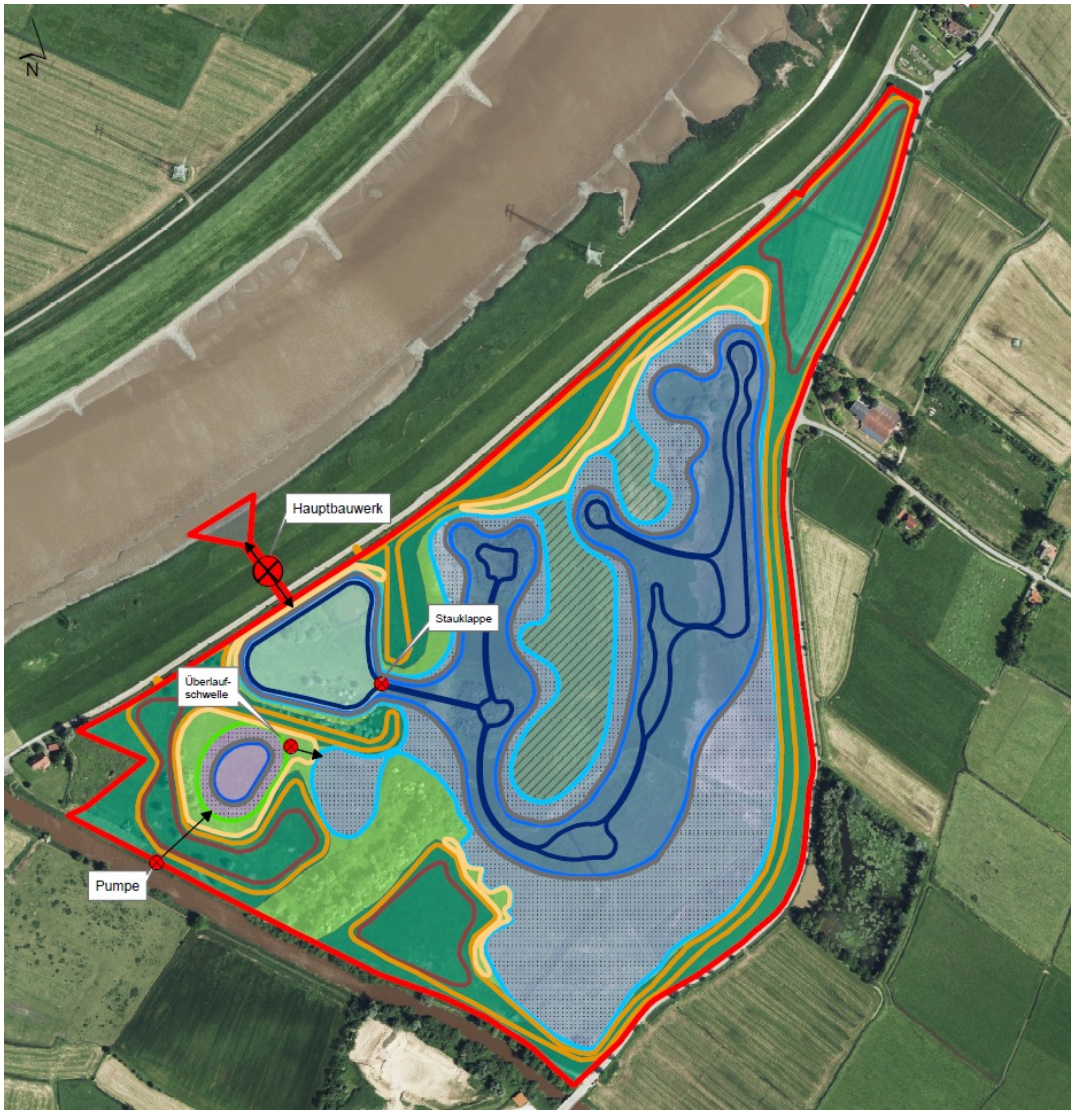
Action plan

Passage structure,
sedimentation basin,
overflow threshold with weir flap
to **reduce entry of sediments**
in order to prevent fast siltation
(to be completed 2024)

Tidal system
(tidal creek, mudflats, wetland)
(to be completed 2023)

Freshwater pond
(compensation)
with irrigation pump
(to be completed 2023)

Costs ~13.5 Mio €

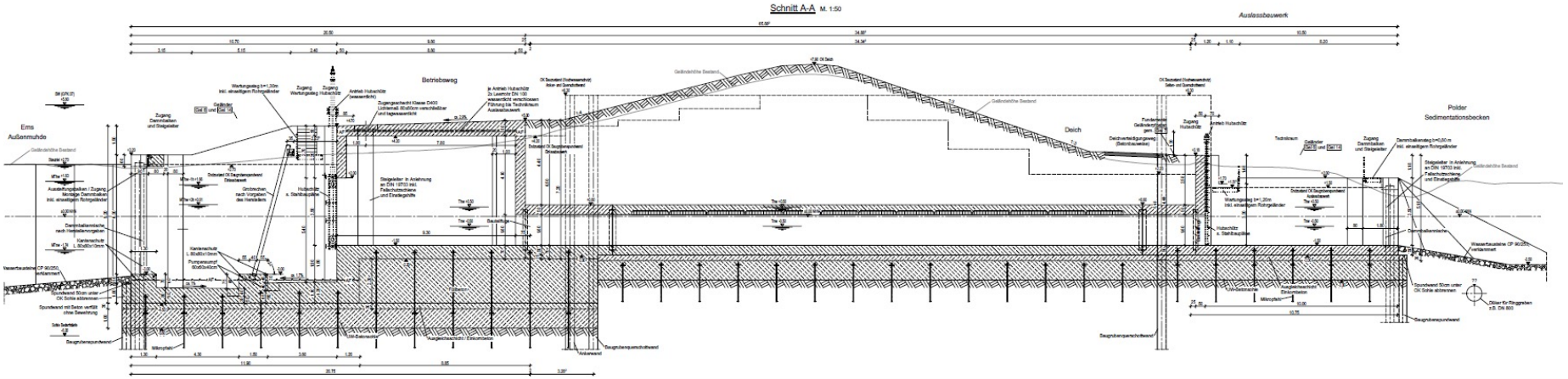


Challenges

Unanimity among contractual partners
Area procurement (only if owners are willing to sell, not represented in the contract):
- obtain the area and clear compensation obligations
- where to put the excavated soil?

-> two tries needed to obtain the **permit**

Engineering structures
- resolving the slit problem
- ensuring dyke safety
- keeping it „simple“ for operation and entertainment



Challenges

Earthwork

- Planning: Diversity of the types of soil and the concept of further use
- Building: **Clay soil** (processability in the construction area, difficulties improving nearby grassland)

Public relation

- **Acceptance** and information, time horizon 2050

Still constructing

Thank you very much for your Attention!

Any **Questions?**