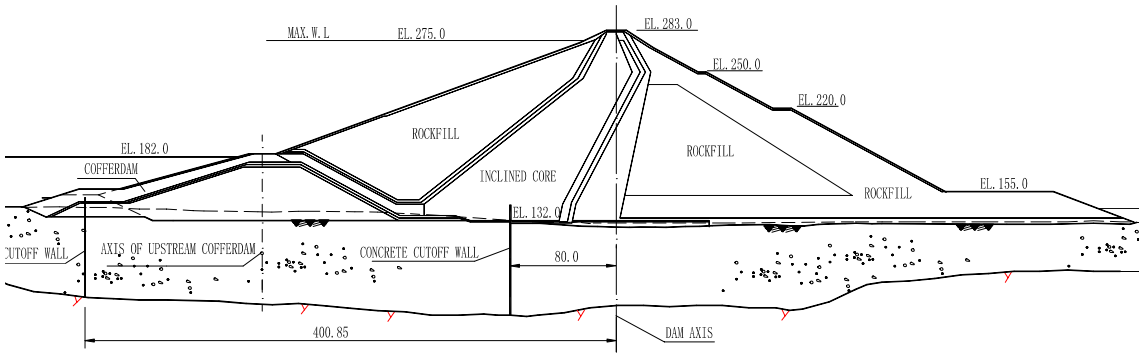
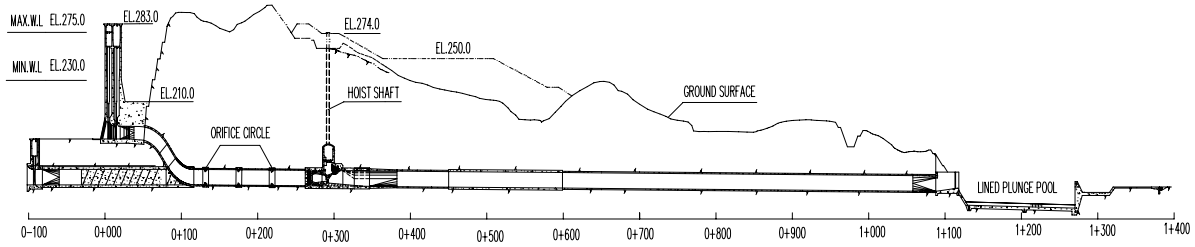
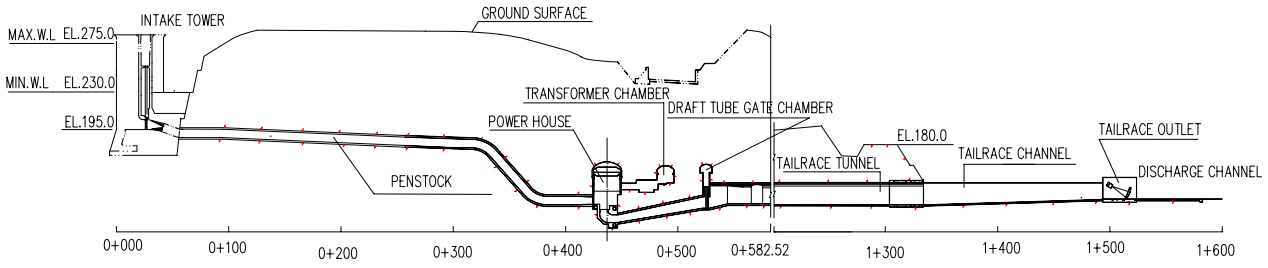
Xiaolangdi Multipurpose Dam Project



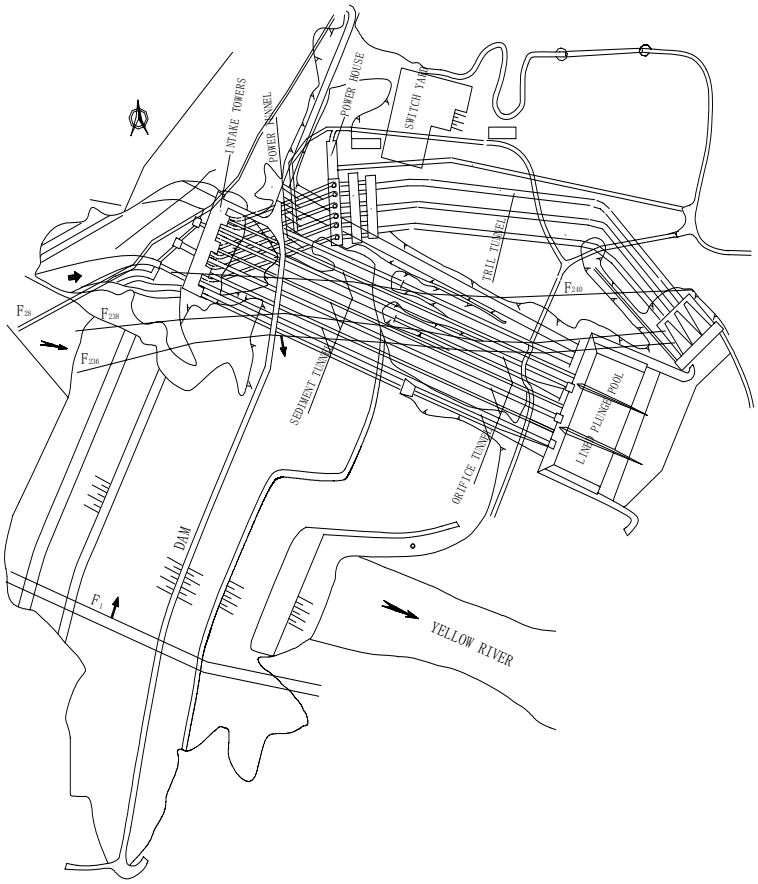
Main dam—typical section



Orifice tunnel profile



Power tunnel profile



The Xiaolangdi Multipurpose Dam Project is located in the mouth of the last gorge in the middle reach of the Yellow River, about 40 km north of Luoyang, Henan Province. It is a key place to control flood and sediment in the lower reach of the Yellow River. This is an extremely large multipurpose dam project oriented to such main objectives as flood control, ice control, sediment reduction, as well as irrigation, water supply and power generation. Upon completion, the project will raise the flood control level in the lower reach from the present 60 year to 1000 year floods, essentially relieving the lower reach from ice-jam risks. Sediment retention by making use of the dead storage will defer bed raising in the lower reach by 20-25 years. With total installed capacity of 1800MW, the long-term average output will be 5.1 GWh.

Reservoir features

Total storage	12.65 billion m^3
Among of which	
Flood control storage	4.05 billion m^3
Regulation storage	1.05 billion m^3
Sediment deposit storage	7.55 billion m^3
Normal pool level	275m

Hydrological sediment features

Basin area upstream of dam site	694155 km^2
Long-term average flow	1342 m^3/s
Design peak flood flow, one in 1000 year flood	40000 m^3/s
Check peak flood flow, one in 10000 year flood	52300 m^3/s
Real long-term average sediment passage	1.351 billion m^3
Real maximum sediment content	941kg/ m^3

Dam features

Type	
Rockfill dam with an inclined core	
Maximum height	160m
Dam crest length	1667m
Embankment	50.73 million m^3

Powerhouse features

Type	underground
Size (L×W×H)	251×26×61m
Installed capacity	6×300MW
Design water head	112m
Long-term average output	5.1GWh

Flood-discharge features

No. of orifice tunnels:	3
No. of sediment tunnels:	3
No. of free-flow tunnels:	3
Plunge pool	
Service spillway	