



Hybrid Off River Augmentation Storage (HORAS)

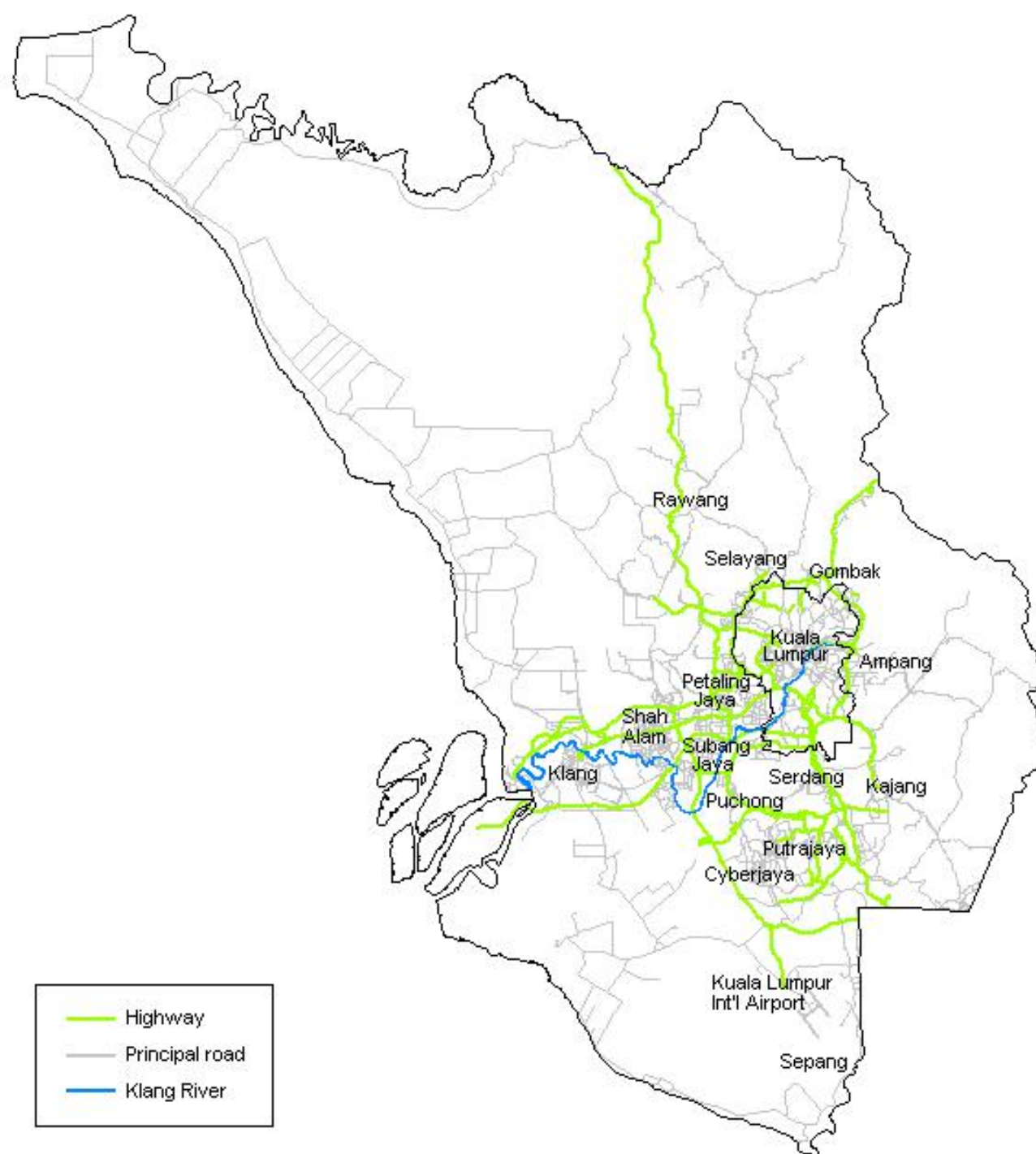
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Challenge

- The uneven distribution of water resources over time
- Population and industrial growth have led to increase in water demand
- Less capacity of treated water
- Illegal discharge of pollutants from factories has cause forced shutdowns of water treatment plants(WTP)

Affected a

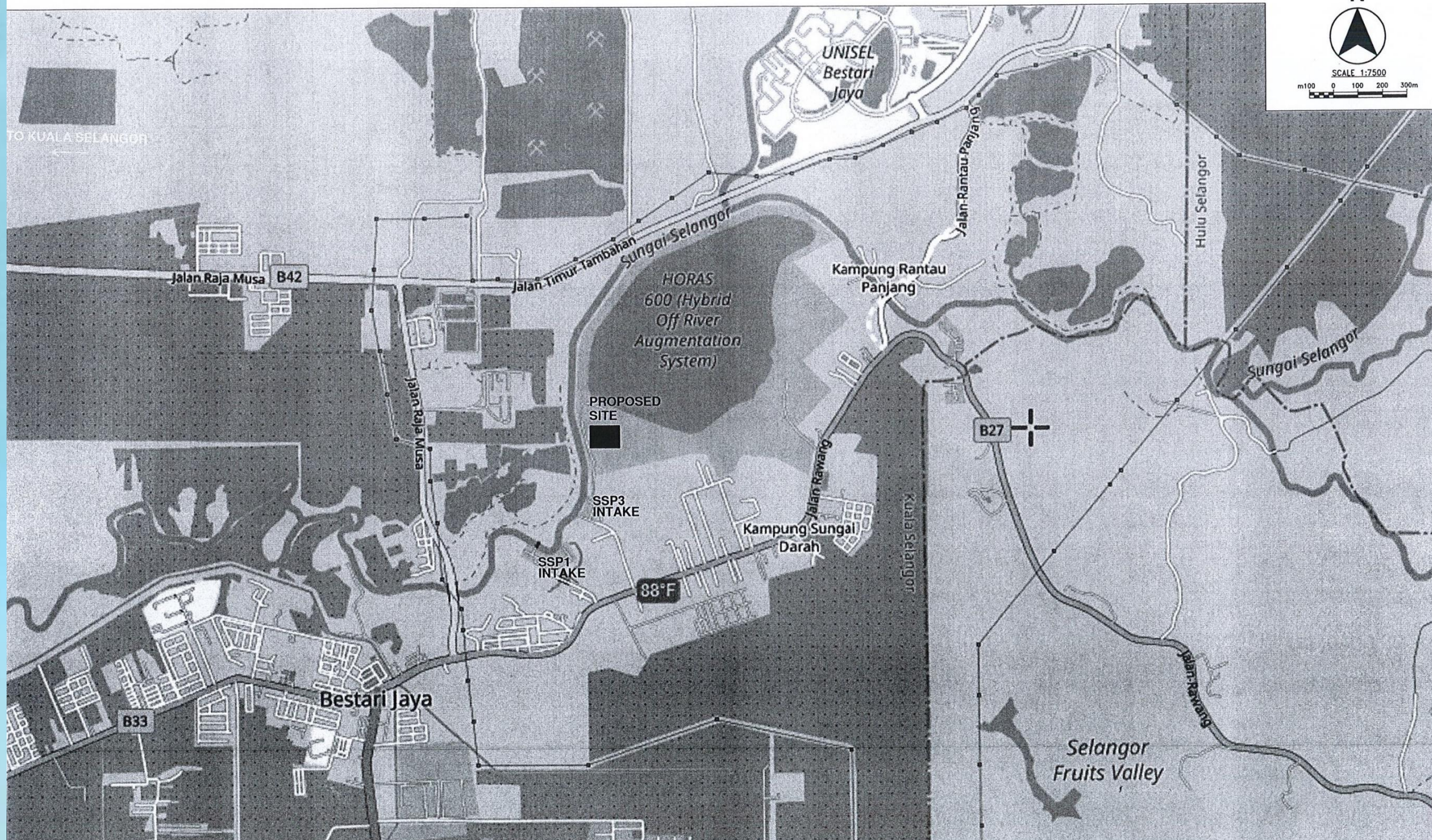
Klang Valley
2021. That is
cities and tow



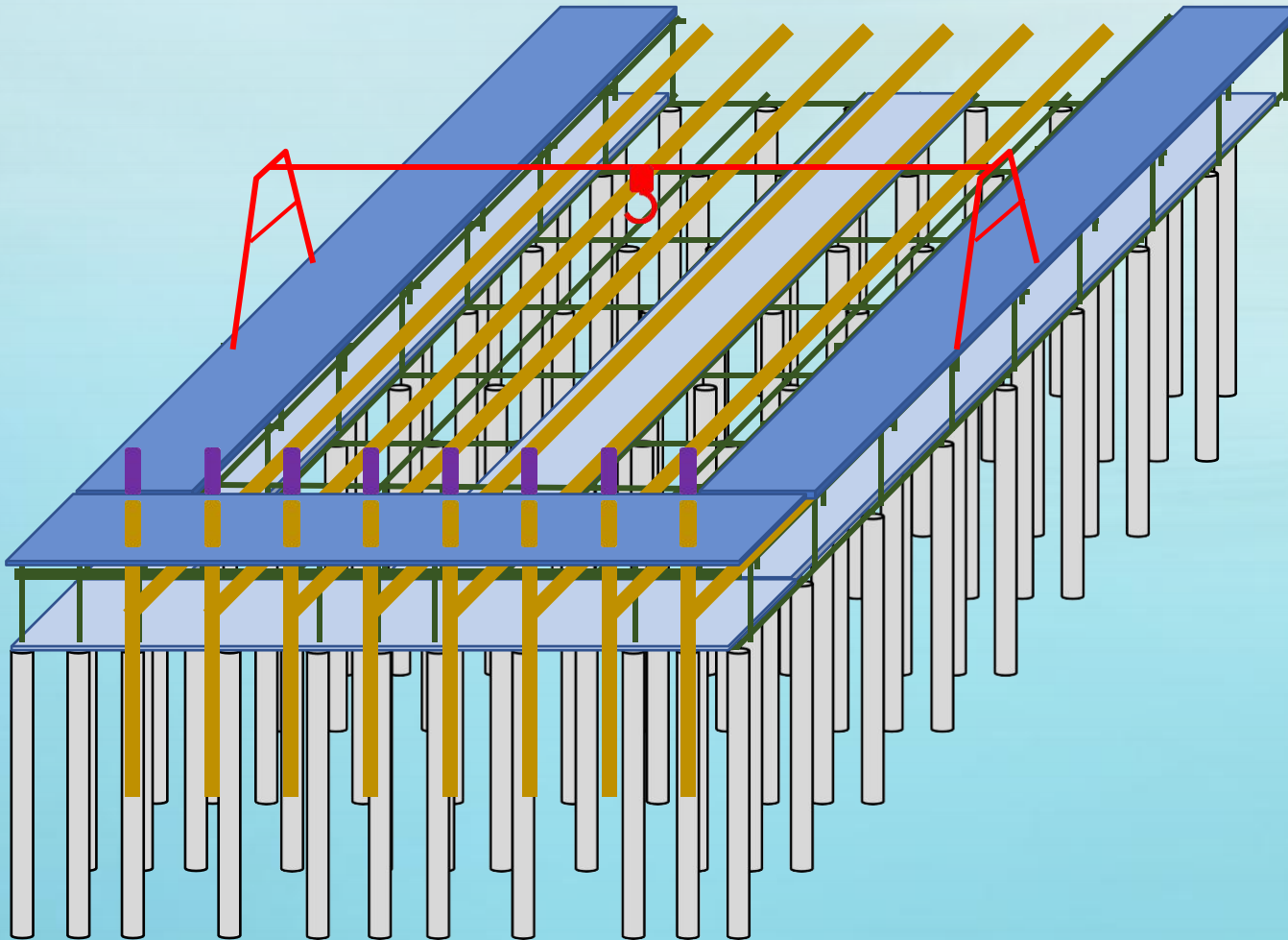
people as of
adjoining

The background of the slide is a soft, blue-toned photograph of a landscape. It features a calm body of water in the foreground, reflecting the surrounding environment. In the distance, there are rolling hills or mountains, some of which are partially obscured by a light mist or fog. The overall color palette is a range of blues, from light sky blue to deeper, muted blues and greys, creating a serene and atmospheric setting.

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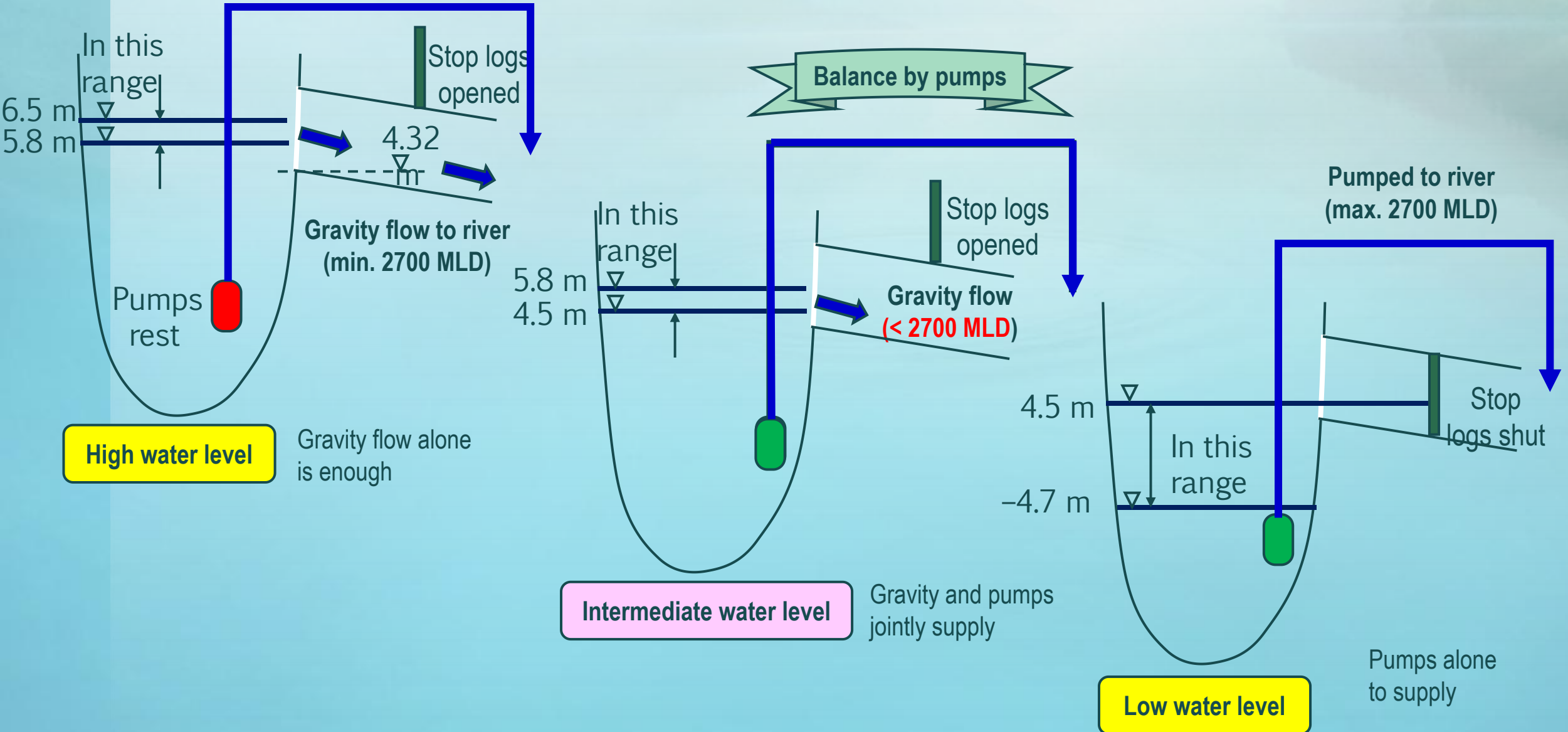
Simple Construction Method



- 1) Install 600 mm mild steel casings
- 2) Install steel frame with I-beams
- 3) Install steel deck at +7.0m.
- 4) Install steel deck at +10.8m.
- 5) Install gantry crane
- 6) Lay pipes
- 7) Install pumps
- 8) No cofferdam, no excavating, no concreting

Operating Modes of the System

Operation at Various Water Level



Thanks ~