Crude sewage coagulant mixing point Example scenarios

Scenario 1:

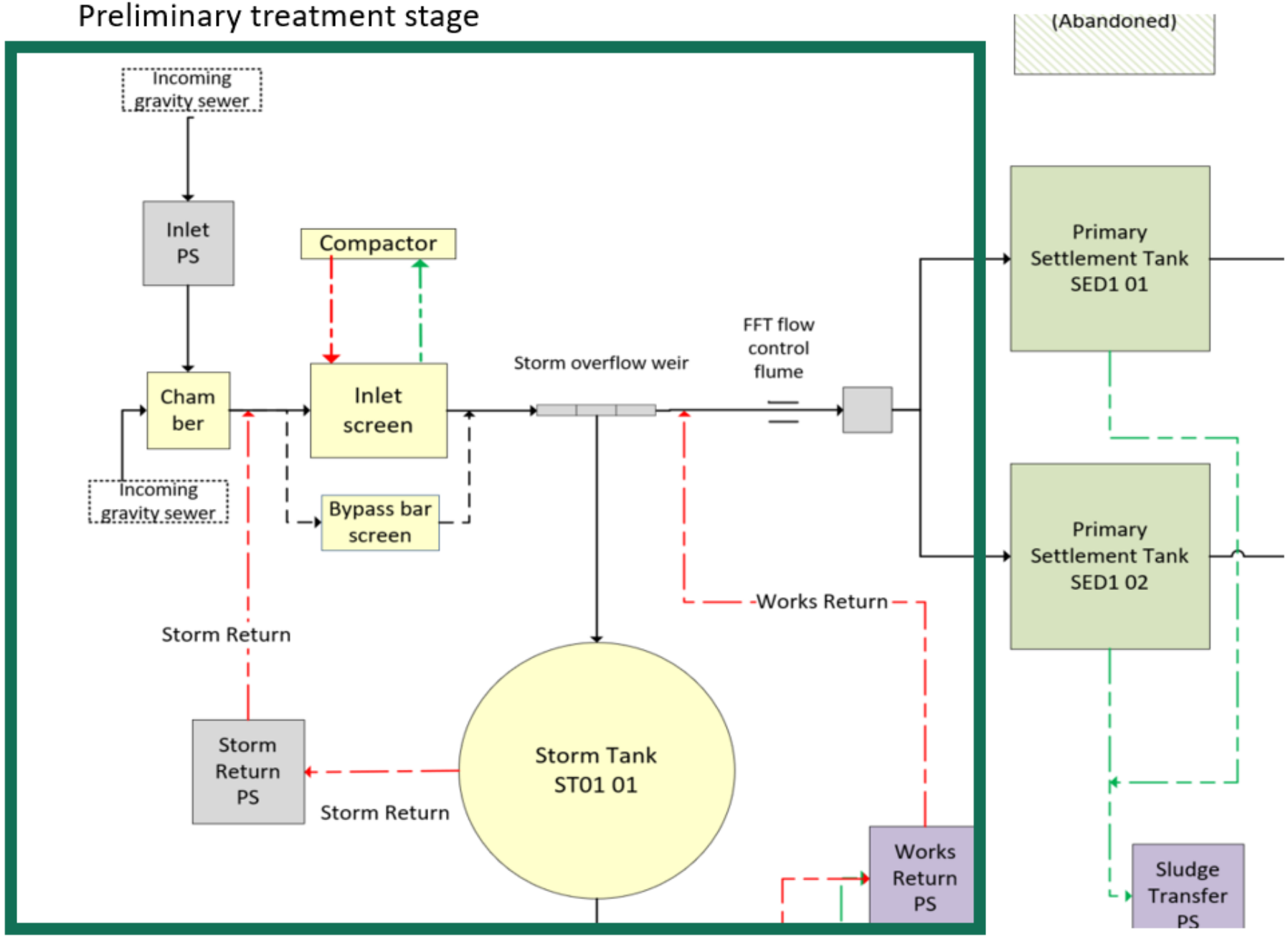
Site description:

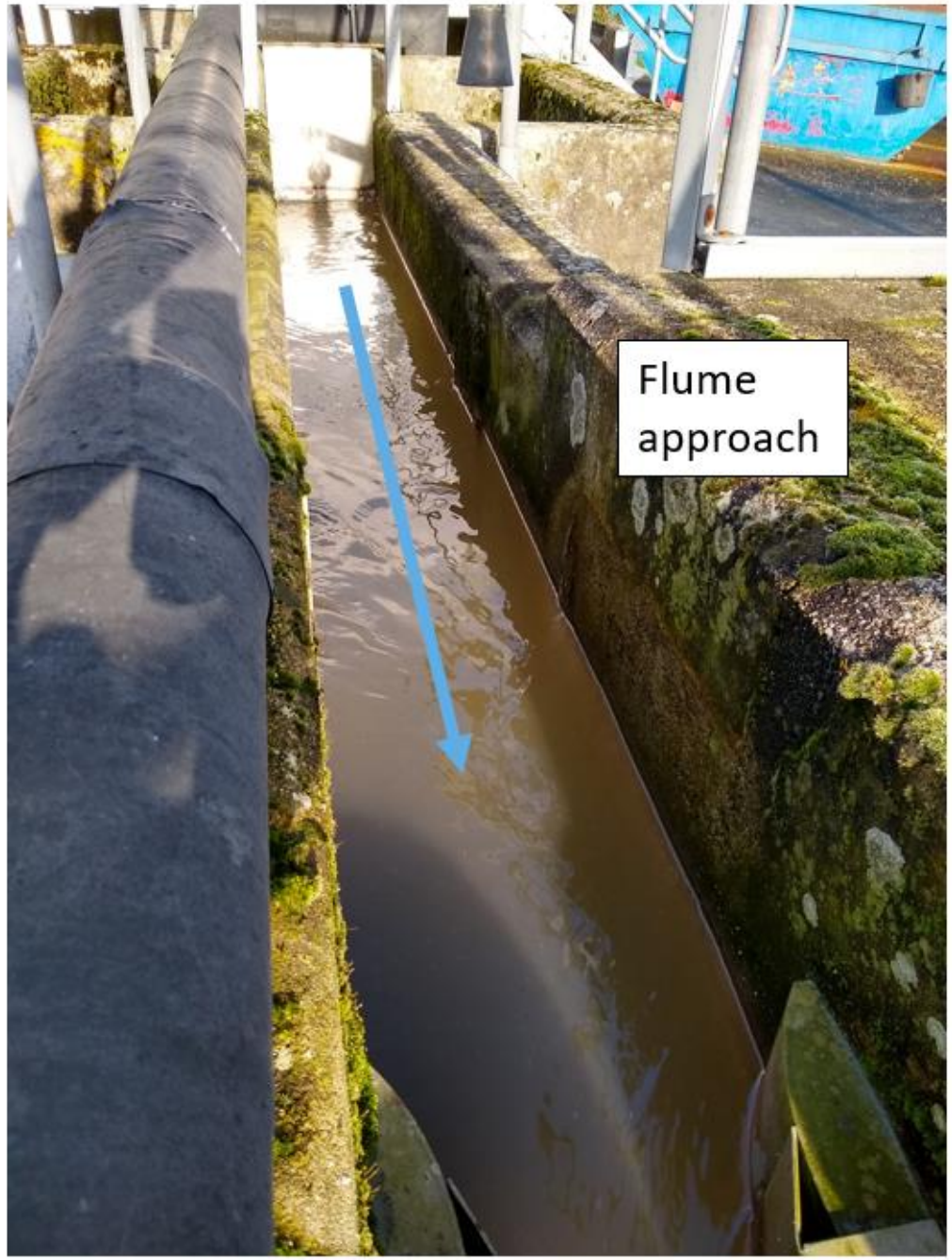
- A medium sized percolating biological filtration treatment works
- Gravity and pumped incoming flows
- Inlet works:
  - Stone trap
  - 6mm 2D mechanical screen with raked screen bypass
  - Doubled sided storm weir
  - Flow control flume
  - Short channel leading to PST distribution chamber

Scenario 1:

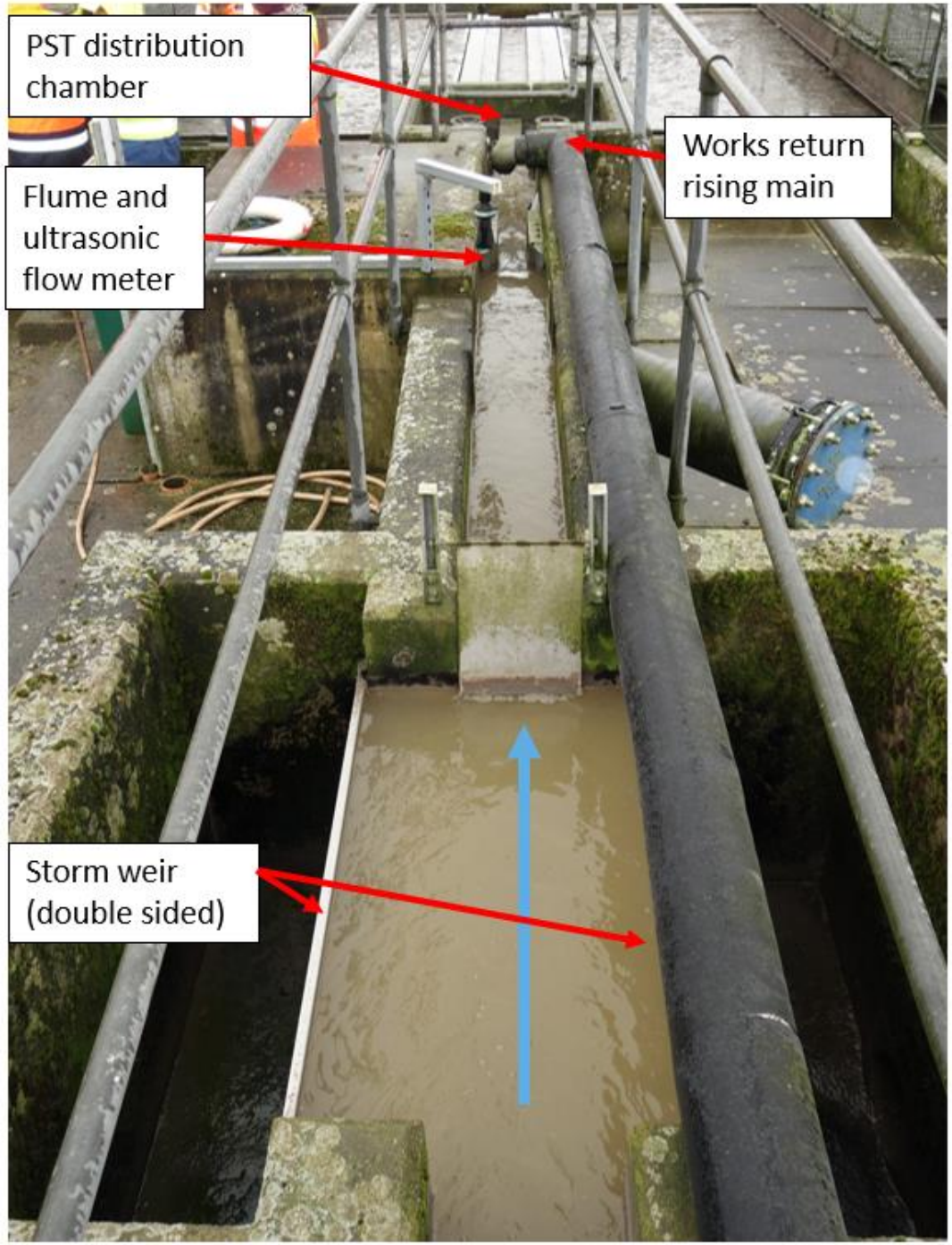
Site Name	Example 1 WRC
Population equivalent	3,675
FFT (l/s) FFT (m3/d) DWF (m3/d)	24.6 2,125 720
Iron permit (95%ile) (mg/l)	3
Iron permit (Absolute) (mg/l)	8
Annual average phosphorus permit (mg/l)	1

Preliminary treatment stage




Flume approach


Flume and works return rising main



Challenges:

- Limited space between end of the flume and PST distribution chamber
- Works return rising main is just downstream of the flow control flume
- Flume drowns out at high flows or high flows + works returns
- No 150mm minimum gravity drop for coagulant dosing at all flow conditions
- Grit build up in the inlet