

Rajshahi WASA Surface Water Treatment Plant (SWTP) Water Treatment Plant – Filter (B303) & Backwash Facilities

Employer: Rajshahi WASA | Engineer/Consultant: BRTC–BUET–SMEC JV | Drawing set ver.: V0.1 (25-04-2025)

Project Overview. This package covers the Water Treatment Plant (WTP) Filter (B303) building and associated backwash systems under Contract No. RWASA/SWTP/2021/01 for Rajshahi WASA. The works include civil/structural, architectural finishes, and the core electrical & instrumentation interfaces required to operate the filtration and backwash process train.

Key structures and functional areas. The drawing set and BOQ indicate the following main components within the Filter (B303) facility:

- Filter bed area comprising 12 filter cells (A–M) with dedicated control consoles and motorized valves/gates.
- Backwash tanks and channels, including backwash water outlet penstock gates (12 nos).
- Pipe gallery area for process pipework, valves, and instrumentation routing.
- Filter Pump House (operational level around +20.40 m).
- Blower Area (operational level around +25.60 m) for air scour blowers.
- Filter Control Area (operational level around +29.30 m) with control panels/HMI interfaces.
- Filter Electrical Room and Water Quality Monitoring Room (operational level around +32.00 m).
- Clarifier Electrical Room (level around +32.00 m) and internal walkways/platforms and staircases.
- Ancillary external works including pavement, drains, ramps, and roof drainage components.

Building levels and floor area summary. The Filter (B303) facility is a multi-level process building with major operating decks/rooms referenced at +20.40 m, +25.60 m, +29.30 m and +32.00 m (plus roof/service areas).

Key metric	Value (from BOQ/drawings)
Total number of floor storeys	4 primary operating levels (+20.40 to +32.00) + roof/service level
Total floor finish area (BOQ basis)	3,079.05 m ² (sum of Floor Finish items 7.1–7.5)
Roof waterproofing area (BOQ basis)	968.8875 m ² (Torch-on membrane waterproofing item 4.1)

Key concepts. The facility integrates filtration and backwash operations with dedicated mechanical/electrical equipment (e.g., backwash pumps, air blowers, and modulating valves), clear operator access via walkways/platforms, and wet-area finishing strategies suitable for process environments (e.g., fair-face concrete in wet zones, protective coatings, and roof waterproofing).