

SOLID WASTE CLOG-RESISTANT

SMART DRAIN

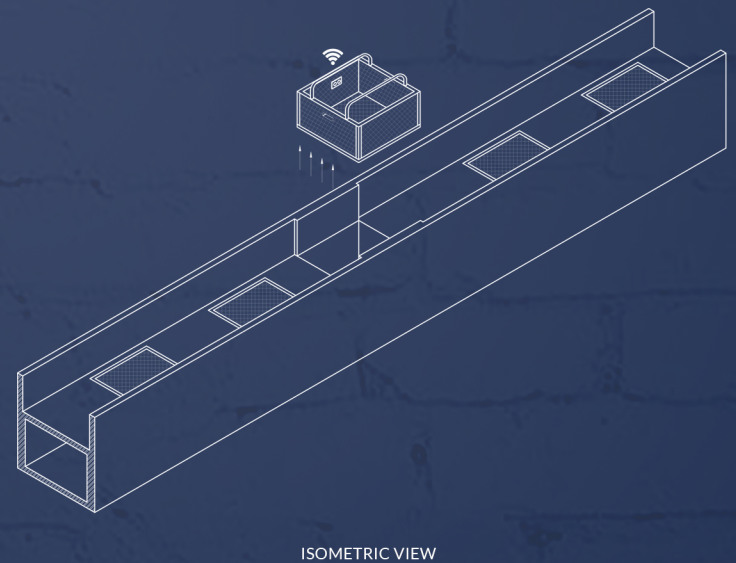
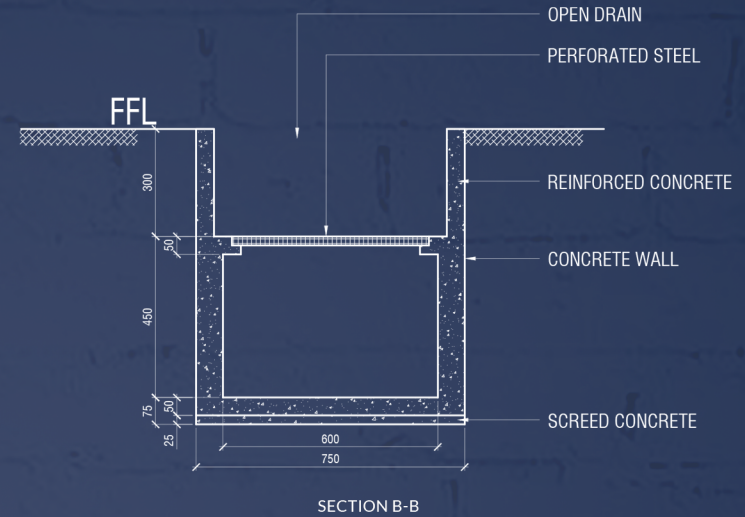
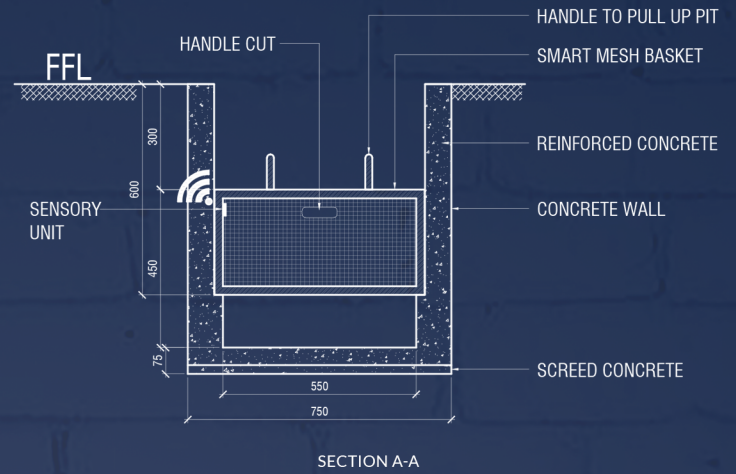


An invention relates to preventing blockages of surface drains, where frequent clogging of solid waste and debris has become a problem in maintaining adequate drain capacity to accommodate excessive rainfall. This technology prevents drain overflow by separating solid matter from the drain water and allowing interruption-free operation.

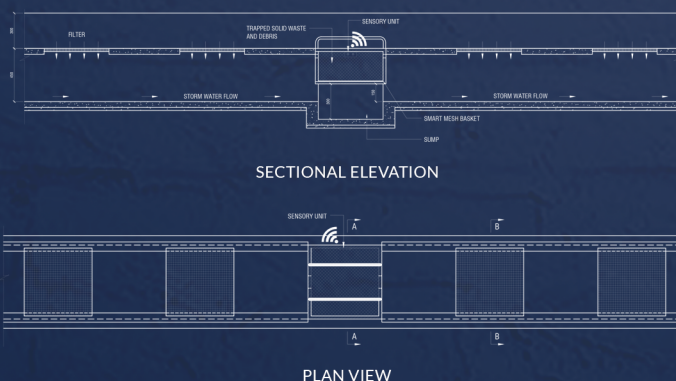


PATENT CLAIMS

1. The Smart Storm Drain features a dual-channel system with a perforated upper layer to capture and retain solid waste, complemented by easily removable mesh baskets for convenient cleanup.
2. The upper channel is constructed from lightweight concrete with cast iron mesh grates at regular intervals, streamlining maintenance and enhancing waste separation.
3. This drain design traps debris above while allowing stormwater to filter down, preventing clogs and ensuring efficient drainage.
4. The bottom channel design prevents waste from floating or sinking, thus avoiding water stagnation and overflow.
5. Maintaining flow capacity in the lower channel, the system effectively manages high water inflow rates.
6. Equipped with lightweight, removable cast iron mesh baskets, the system simplifies the disposal of trapped solid waste.
7. Mesh baskets are integrated with sensors to monitor waste levels and communicate with a central data system for intelligent maintenance.
8. An intelligent data hub utilizes advanced modelling to determine the most efficient waste collection routines, optimizing performance and cost.
9. A mobile notification system alerts operators to full baskets, negating the need for manual inspections and preventing potential overflows.
10. Integrated sensors measure real-time flow rates, aiding in the quick detection of drainage anomalies during rainfall events.
11. The system analyzes flow rates to identify and address obstructions promptly, ensuring seamless operation of the drainage system.



STRUCTURAL DRAWINGS



PATENT DETAILS

- Patent Number: 21267
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