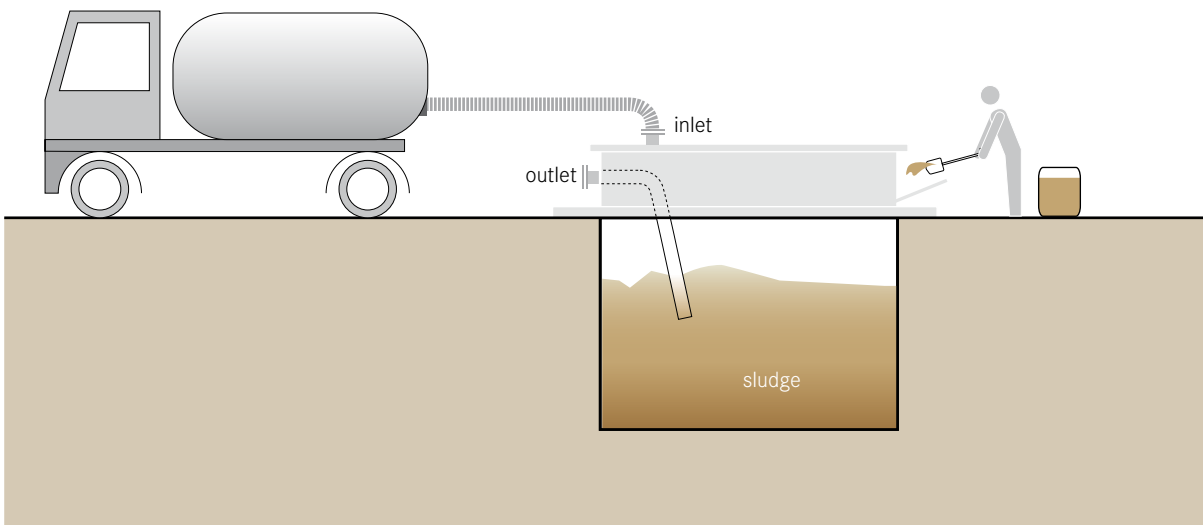


Application Level:	Management Level:	Inputs/Outputs:
<input type="checkbox"/> Household <input checked="" type="checkbox"/> Neighbourhood <input checked="" type="checkbox"/> City	<input type="checkbox"/> Household <input checked="" type="checkbox"/> Shared <input checked="" type="checkbox"/> Public	<input checked="" type="checkbox"/> Sludge



Transfer stations or underground holding tanks act as intermediate dumping points for faecal sludge when it cannot be easily transported to a (Semi-) Centralized Treatment facility. A vacuum truck is required to empty transfer stations when they are full.

Operators of Human-Powered or small-scale Motorized Sludge Emptying Equipment (see C.2 and C.3) discharge the sludge at a local transfer station rather than illegally dumping it or travelling to discharge it at a remote treatment or disposal site. When the transfer station is full, a vacuum truck empties the contents and takes the sludge to a suitable treatment facility. Municipalities or sewerage authorities may charge for permits to dump at the transfer station to offset the costs of operating and maintaining the facility.

In urban settings, transfer stations have to be carefully located, otherwise odours could become a nuisance, especially, if they are not well maintained.

Design Considerations A transfer station consists of a parking place for vacuum trucks or sludge carts, a connection point for discharge hoses, and a storage tank. The dumping point should be built low enough to

minimize spills when labourers manually empty their sludge carts. Additionally, the transfer station should include a vent, a trash screen to remove large debris (garbage) and a washing facility for vehicles. The holding tank must be well constructed to prevent leaching and/or surface water infiltration.

A variation is the sewer discharge station (SDS), which is like a transfer station, but is directly connected to a conventional gravity sewer main. Sludge emptied into the SDS is released into the sewer main either directly or at timed intervals (e.g., by pumping) to optimize the performance of the sewer and of the wastewater treatment plant, and/or reduce peak loads.

Transfer stations can be equipped with digital data recording devices to track quantity, input type and origin, as well as collect data about the individuals who dump there. In this way, the operator can collect detailed information and more accurately plan and adapt to differing loads.

The system for issuing permits or charging access fees must be carefully designed so that those who most need the service are not excluded because of high costs, while still generating enough income to sustainably operate and maintain the transfer stations.

Appropriateness Transfer stations are appropriate for dense, urban areas where there are no alternative discharge points for faecal sludge. Establishing multiple transfer stations may help to reduce the incidence of illegal sludge dumping and promote the emptying market.

Transfer stations are especially adequate where small-scale sludge emptying takes place. In big cities, they can reduce the costs incurred by truck operators by decreasing transport distances and waiting times in traffic jams. Local service providers can discharge sludge at transfer stations during the day, while large trucks can empty the tanks and go to the treatment plant at night when traffic is light.

Transfer stations should be located where they are easily accessible, convenient, and easy to use. Depending on their maintenance, odours could become a problem to local residents. However, the benefits gained from them compared to open-air illegal dumping greatly offset any nuisances.

Health Aspects/Acceptance Transfer stations have the potential to significantly increase the health of a community by providing an inexpensive, local solution for faecal sludge disposal. By providing a transfer station, independent or small-scale service providers are no longer forced to illegally dump sludge, and homeowners are more motivated to empty their pits. When pits are regularly emptied and illegal dumping is minimized, the overall health of a community can be significantly improved. The location must be carefully chosen to maximize efficiency and minimize odours and problems to nearby residents.

Operation & Maintenance Screens must be frequently cleaned to ensure a constant flow and prevent back-ups. Sand, grit and consolidated sludge must also be periodically removed from the holding tank. There should be a well-organized system to empty the transfer station; if the holding tank fills up and overflows, it is no better than an overflowing pit. The pad and loading area should be regularly cleaned to minimize odours, flies and other vectors from becoming nuisances.

Pros & Cons

- + Makes sludge transport to the treatment plant more efficient, especially where small-scale service providers with slow vehicles are involved
- + May reduce the illegal dumping of faecal sludge
- + Costs can be offset with access permits
- + Potential for local job creation and income generation
- Requires expert design and construction
- Can lead to odours if not properly maintained

References & Further Reading

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