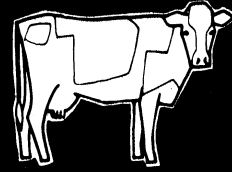




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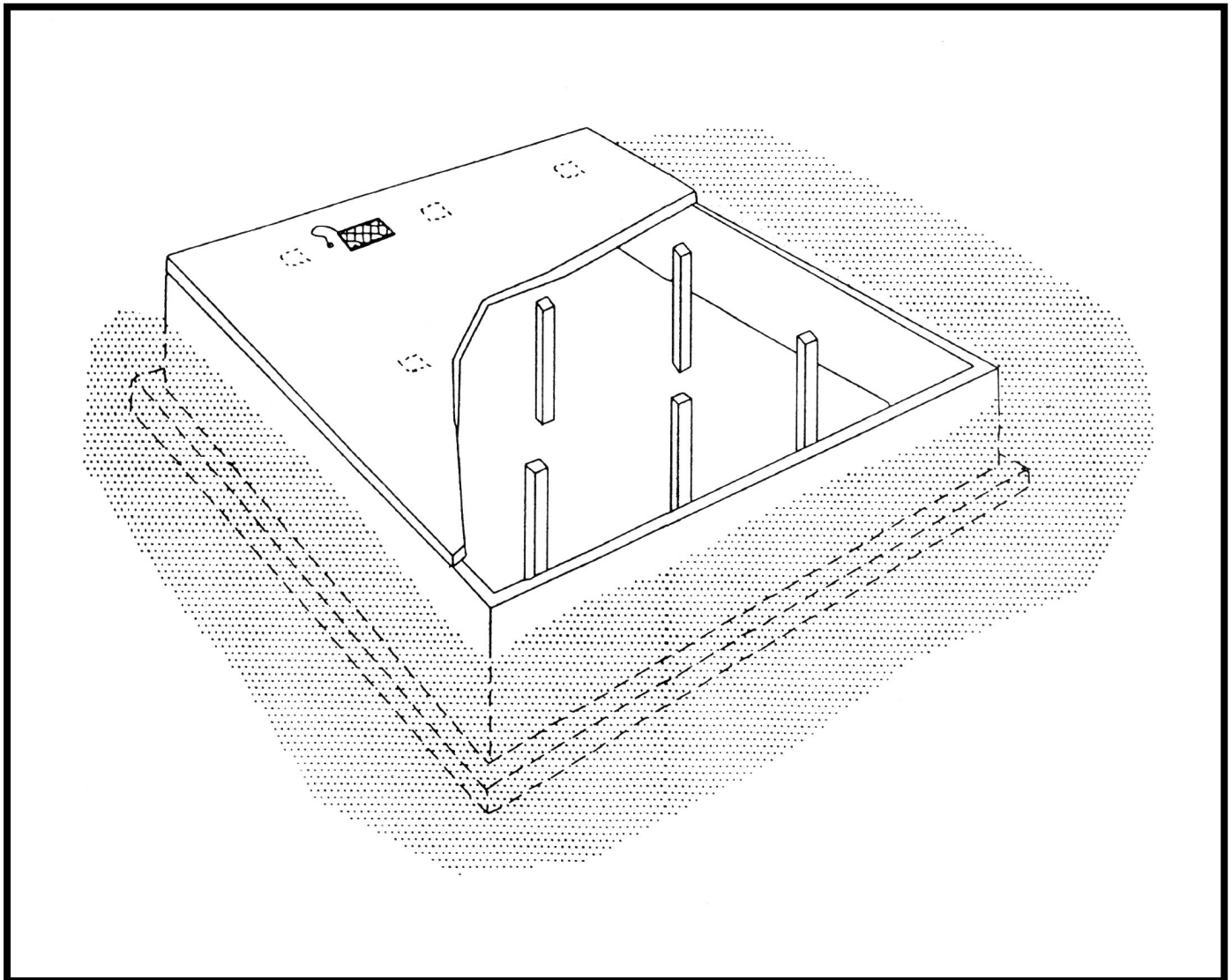
Agricultural Building Systems Handbook



PLAN

383-24

COVERED RECTANGULAR MANURE STORAGE TANK



DEVELOPED BY CANADA PLAN SERVICE

COVERED RECTANGULAR MANURE STORAGE TANK

CPS
PLAN 10734

This leaflet highlights the details of a plan for a concrete covered rectangular liquid manure storage tank.

Table 1 on sheet 2 and **Table 2** on sheet 4 provide footing dimensions and reinforcing steel details required for various wall heights, both for fully drained and undrained back fill scenarios.

In addition to manure and soil loads, walls have been designed to reflect outside uniformly distributed surcharge loads imposed by vehicles. Critical increased reinforcement is necessary near access ramps. Ice loading has not been included in the design of the walls.

If the groundwater table rises above the tank floor, it is possible that the floor slab can fail or the entire tank

can be lifted out of place by the resulting hydrostatic water pressure when the tank is empty or partially empty. Adequate drainage to maintain groundwater levels below the floor slab will prevent uplift. Alternatively, pressure relief plugs can be provided in the slab.

Footing drains must be free draining and discharge from these drains shall be disposed of in such a way as to not pollute the environment.

Details are provided on the plan for the construction of the concrete cover an access opening.

To discourage easy entry into a highly concentrated manure gas environment, ladders should **not** be installed on covered manure storages.