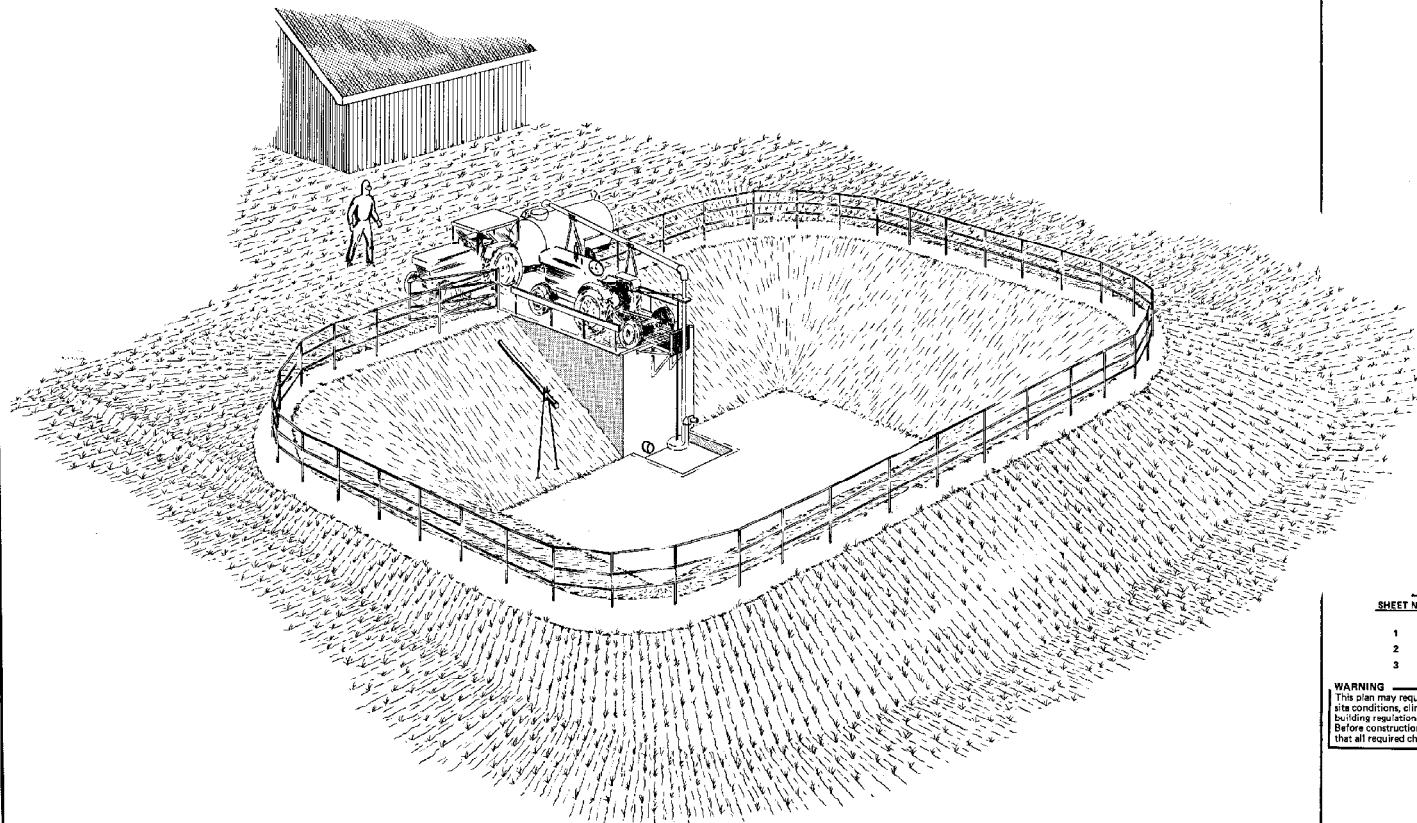


1. for management information see leaflet M-10706
2. ALL DIMENSIONS IN THIS METRIC PLAN ARE IN MILLIMETRES (mm) UNLESS OTHERWISE SPECIFIED



INDEX TO PLAN

SHEET NO.	TITLE
1	Clay - Lined Manure Storage Pond
2	Plan and Section
3	Pumping Dock Details

WARNING
 This plan may require structural and other changes to meet local site conditions, climatic loads, user requirements and applicable building regulations (such as the Canadian Farm Building Code). Before construction, the user of this plan is responsible to ensure that all required changes are made.

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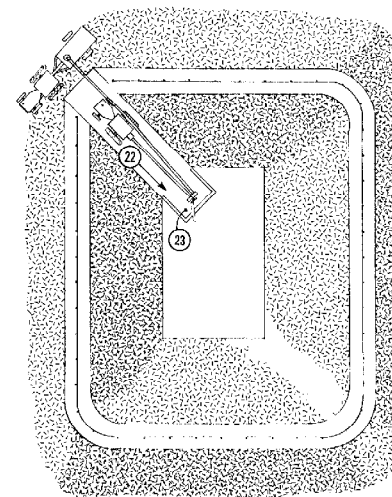
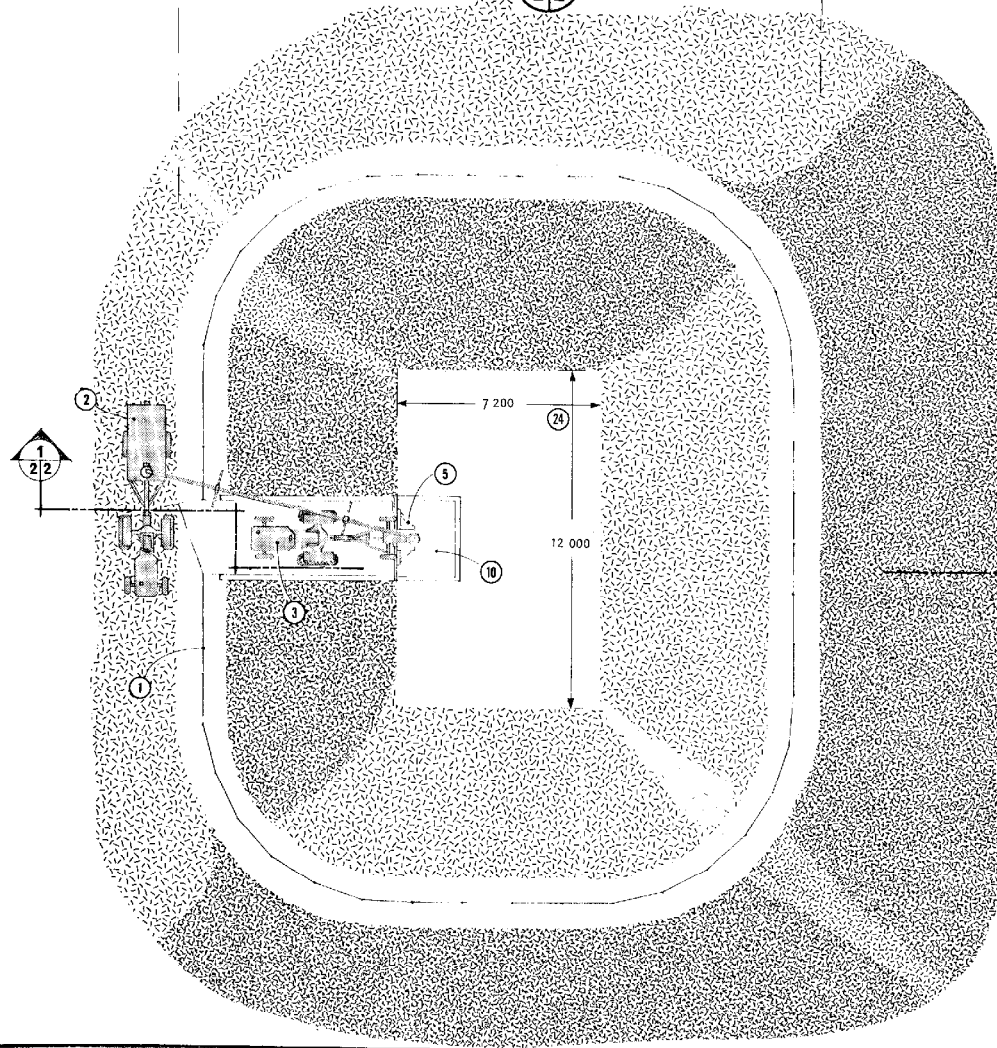
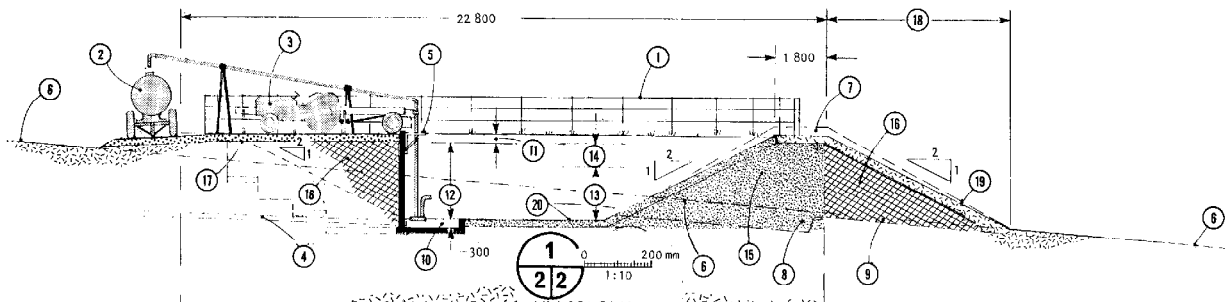
SYM	REVISIONS	CHECKED	DATE	APPROVED

CANADA
 PLAN SERVICE

CLAY - LINED MANURE
 STORAGE POND

DESIGNED <i>JET</i>	DATE 79-07	PLAN M-10706
DRAWN	REVISED	
TRACED	DETAIL NUMBER <i>A</i>	
CHECKED <i>JET</i>	QUANTITY ON SHEET <i>C</i>	

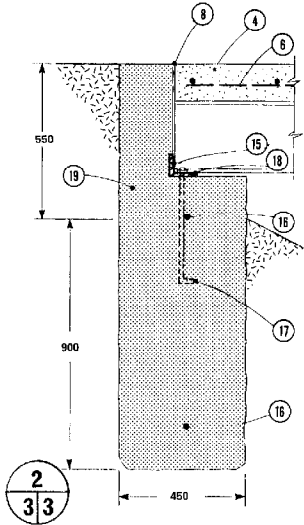
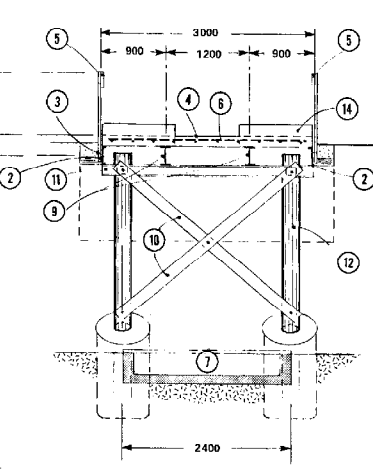
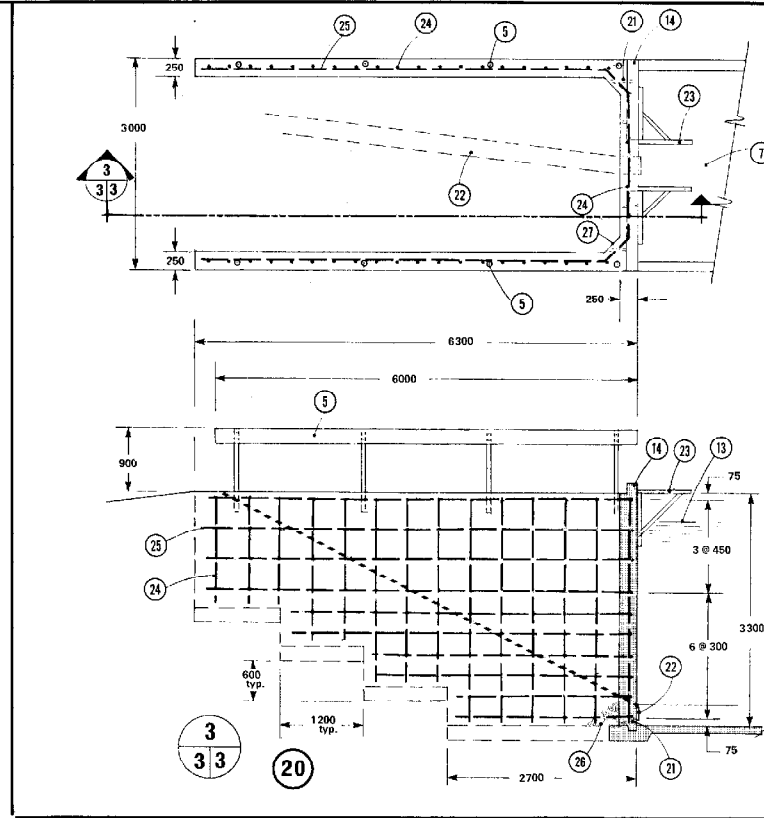
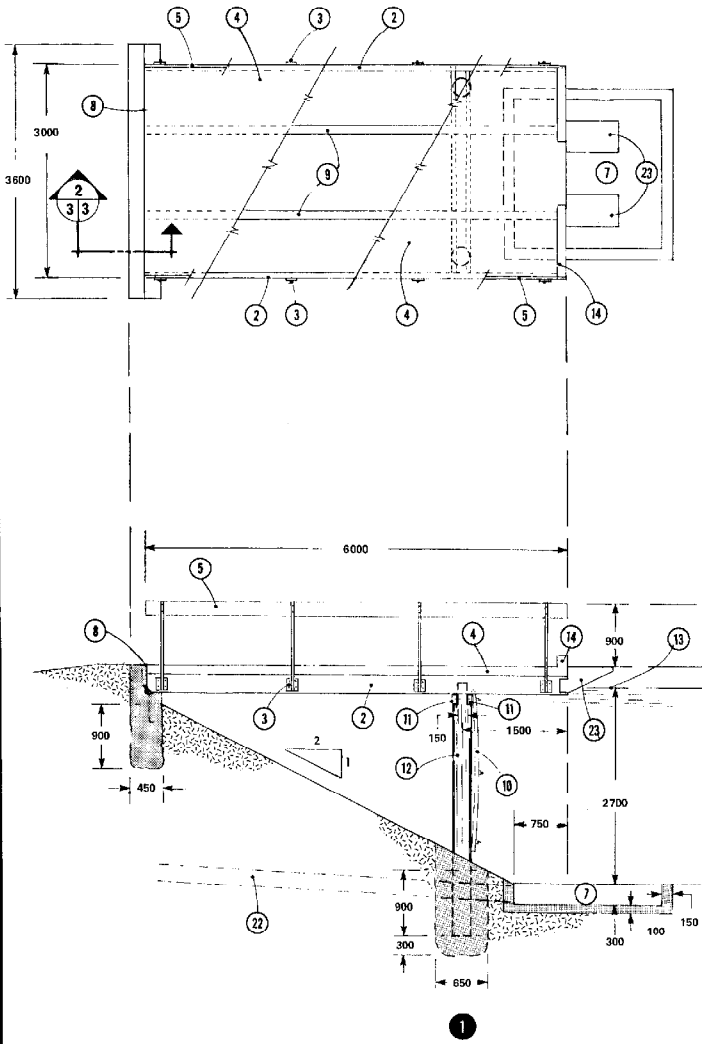
SHEET 1 OF 3



1. safety fence
2. vacuum tanker
3. tractor and agitator pump
4. 300 mm PVC pipe from plunger type manure pump, below frost, locate at north side of storage
5. pump support brackets to suit agitator pump (see manufacturer)
6. original grade
7. add 300 mm of extra height to bank at low side to allow for settlement
8. remove original soil to 750 mm below grade and fill to top of bank with clay well packed in 150 mm layers
9. remove 150 mm top soil from filled area before building bank
10. 2 100 x 2 100 x 300 mm deep sump
11. 300 mm freeboard
12. total storage depth, 2 700 mm
13. available manure storage varies (see table)
14. precipitation varies
15. packed clay
16. packed fill
17. gravel or crushed stone, min. 150 mm deep
18. dimension varies with site slope
19. top soil on outside of earth embankment
20. clay floor and walls
21. alternate ramp for tractor-powered pit pumps designed for operating on slope
22. maximum ramp slope 1:3, concrete surface deeply grooved for traction
23. ramp extends to 300 mm below storage floor for sump
24. bottom dimensions to suit agitation capacity of typical tractor - pto manure pumps; if size is doubled, 2 pumping docks may be required

LIQUID MANURE STORAGE CAPACITIES		
Accumulated Precipitation during Storage Period (mm of water)	Manure Storage (m³), Pond with 7.2 x 12 m bottom, 2.7 m storage depth	Manure Storage (m³), Pond with 7.2 x 24 m bottom, 2.7 m storage depth
0	590	1000
100	549	934
200	506	868
300	463	802
400	420	736
500	377	670
600	334	604
700	291	538
800	248	472
900	206	406
1000	162	340

formerly 2371				
SYM	REVISIONS	CHECKED	DATE	APPROVED
		PLAN AND SECTION		
DESIGNED JET	DATE 79-07	PLAN		
DRAWN R.C. MORDEN	REVISED	M-10706		
TRACED	DETAIL NUMBER	SHEET 2 OF 3		
CHECKED JET	ORIGINALS ON SHEET			



1. wood and steel frame pumping dock with concrete deck
2. C10 x 15.3 steel channel, 6000mm long
3. 1/4 x 6" x 6" flat steel plate welded to 1 1/2" galv. pipe - bolt to C10 steel channel with 4 1/2" x 1 1/2" machine bolts, nuts and lock washers
4. 3000 x 6000 x 125mm thick concrete slab over (2) and (9)
5. 38 x 184 x 6400mm guard rail, bolt to 1 1/2" galv. pipe posts with 2 - 3/8" carriage bolts, nuts and washers
6. 10M rebar @ 300mm ac both ways, 75mm from bottom
7. sump
8. construction joint
9. S10 x 25.4 steel beam, 6000mm long
10. 38 x 140mm brace - pressure treated
11. C6 x 8.2 steel channel, 3000mm long - posts to be notched to fit, bolt to posts and weld to (2) and (9) as in (16)
12. 250 top x 3900mm pressure treated post
13. max. liquid level 300mm below top of pumping platform
14. 150 x 150mm concrete curb wheel stop
15. 3" x 3" x 3/8" steel angle 3000mm long
16. 20M x 1450mm rebar
17. 5/8" x 450mm anchor bolt and nut, 6 req'd - 2 to be located 125mm from each end of (15), 2 per I beam, 200mm apart, one on each side
18. 50mm field weld - to both sides of (2) and (9)
19. anchor wall to be 300mm long, bottom 750mm to be poured in trench of undisturbed firm soil
20. concrete pumping dock
21. 3/4" pipe drains @ 600mm oc
22. 300mm pvc pipe from plunger manure pump
23. pump support brackets to suit agitator pump (see manufacturer)
24. 20M vertical rebar 450mm oc in side walls, 600mm oc in front wall
25. 20M horizontal rebar 450mm oc
26. crushed stone for drainage
27. 225mm cove

NOTE:
All concrete to be 20MPa min. strength at 28 days, air entrained.
All rebar to be 350MPa min. yield strength

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SYM	REVISIONS	CHECKED	DATE
DESIGNED JET		DATE 79-07	
DRAWN AL MURRAY		REVISED	
CHECKED JET		ORIGINATES ON SHEET A	
		DRAWN ON SHEET C	
CANADA PLAN SERVICE		PUMPING DOCK DETAILS	
DESIGNED JET		DATE 79-07	
DRAWN AL MURRAY		REVISED	
CHECKED JET		ORIGINATES ON SHEET A	
		DRAWN ON SHEET C	
PLAN		M-10706	
		SHEET 3 OF 3	