

- 1 for management information see leaflet M-10707
- 2 square storage slab for fixed manure stacker; low concrete curb extends all around slab
- 3 rectangular storage slab for swinging manure stacker; earth curbs except at buck wall and stacker trolleys
- 4 ALL DIMENSIONS IN THIS METRIC PLAN ARE IN MILLIMETRES (mm) UNLESS OTHERWISE SPECIFIED

INDEX TO PLAN

sheet _____ title _____

- 1 CURBED STORAGE SLABS FOR STACKED MANURE
- 2 SQUARE STORAGE SLAB FOR FIXED MANURE STACKER
- 3 RECTANGULAR STORAGE SLAB FOR SWINGING MANURE STACKER

WARNING

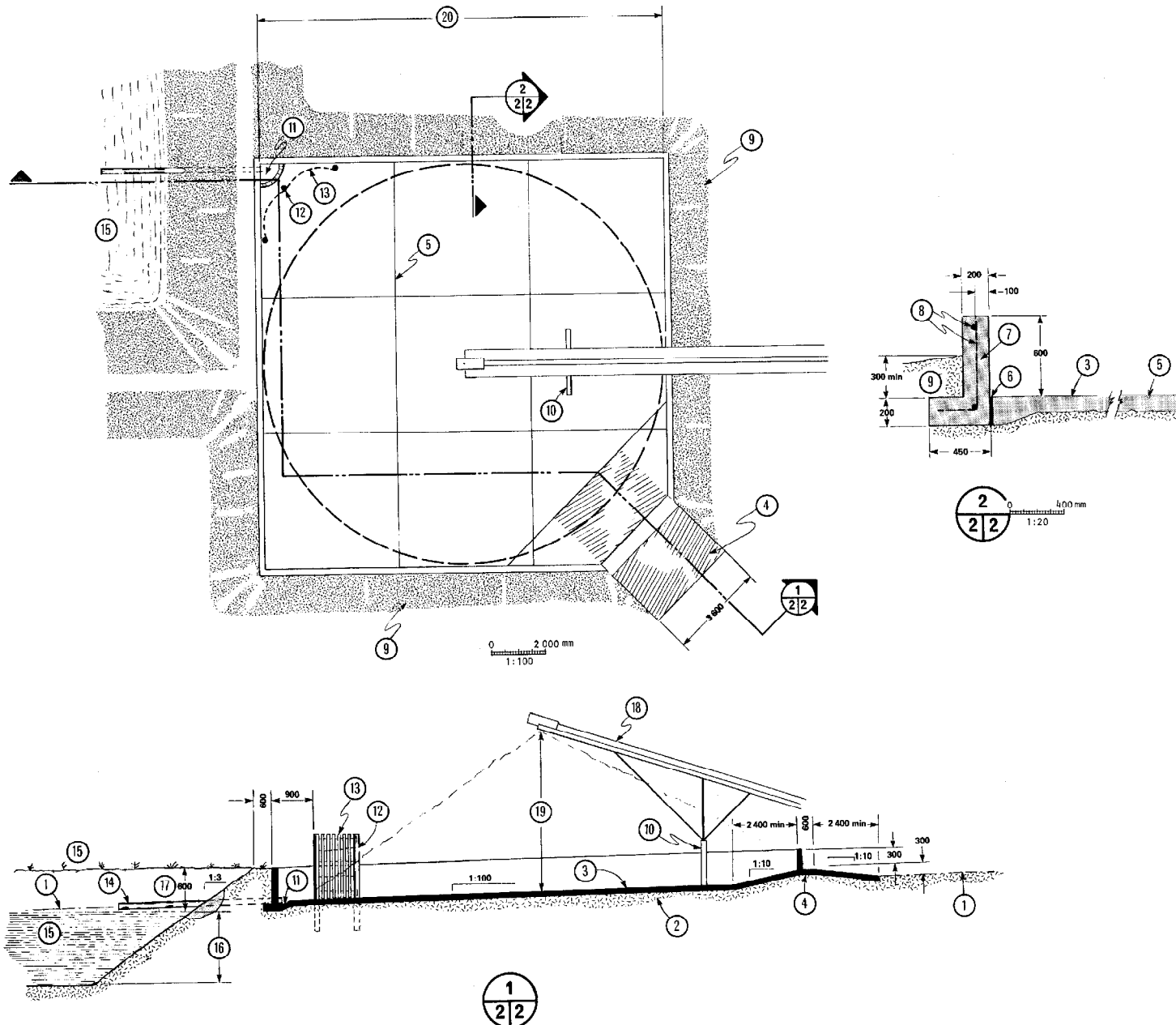
This plan may require structural and other changes to meet local site conditions, climatic loads, user requirements and applicable building regulations (such as the Canadian Farm Building Code). Before construction, the user of this plan is responsible to ensure that all required changes are made.

SYM REVISIONS CHECKED DATE APPROVED

CANADA
PLAN SERVICE

CURBED STORAGE SLABS
FOR STACKED MANURE

DESIGNED JET	DATE 79.05	PLAN
DRAWN L. MORGAN	REVISED	M-10707
TRACED	DETAIL NUMBER A	SHEET 1 OF 3
CHECKED H.A.J.	ORIGINATES ON SHEET B	
	DRAWN ON SHEET C	



- 1 original grade line (approx.)
- 2 remove topsoil to firm undisturbed subsoil, if drainage is poor add 150 mm crushed stone and compact
- 3 100 mm concrete slab 30 MPa air entrained mix; surface finish textured wood float or equivalent, slope uniform to drain
- 4 125 mm concrete paved entrance ramp, surface rough screed finish, or grooved with rebar tamped into fresh concrete (for traction)
- 5 crack control joint, saw grooves or tooled grooves 25 mm deep, not over 4500 mm on both ways of slab
- 6 construction joint, asphalt felt bond breaker, 4 edges of slab
- 7 concrete curb, continuous 4 sides of slab (3)
- 8 2-15M horizontal rebars continuous and 15M vertical L-hook rebars @ 600 mm oc
- 9 topsoil backfill outside of curb, slopes away from storage
- 10 200 mm concrete stub wall, see stacker manufacturer for details and location
- 11 sump at low corner 150 mm deep
- 12 1500 mm post set 300 mm into concrete, use 3" galv pipe or 150 mm pressure-treated wood
- 13 wood and wire snow fencing secured to (12), replace if damaged
- 14 8" min steel pipe or culvert, length is 2700 mm + 3 x (15)
- 15 holding pond lined with compacted clay outside and inside, banks above waterline finished with topsoil and seeded to grass
- 16 storage depth as required, do not excavate below water table
- 17 freeboard above max. liquid line
- 18 fixed stacker; see manufacturer for specifications and discharge height (19)
- 19 maximum stack height (m)
- 20 stack diameter (m)
- 21 table of manure stack volumes based on $V = 3.14 \times \frac{(19)^2}{12} \times (20)$

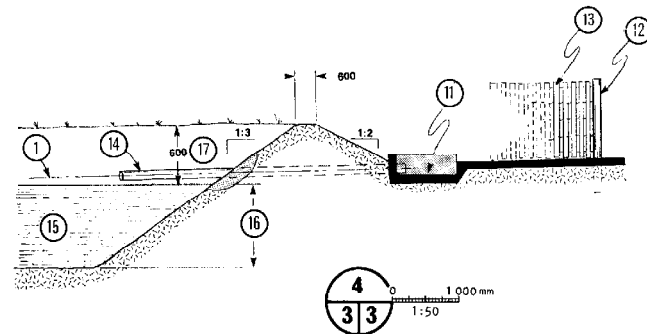
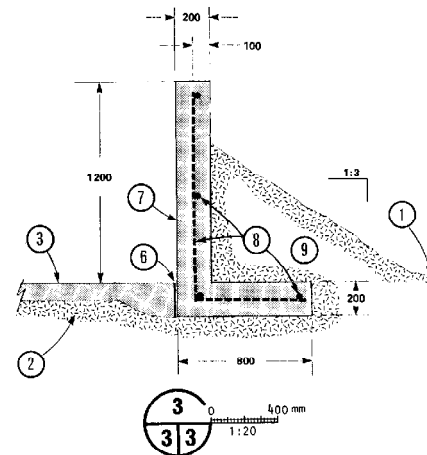
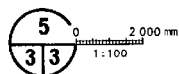
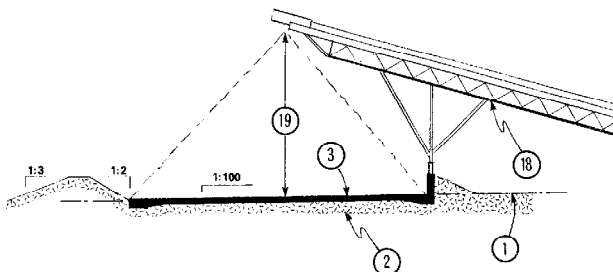
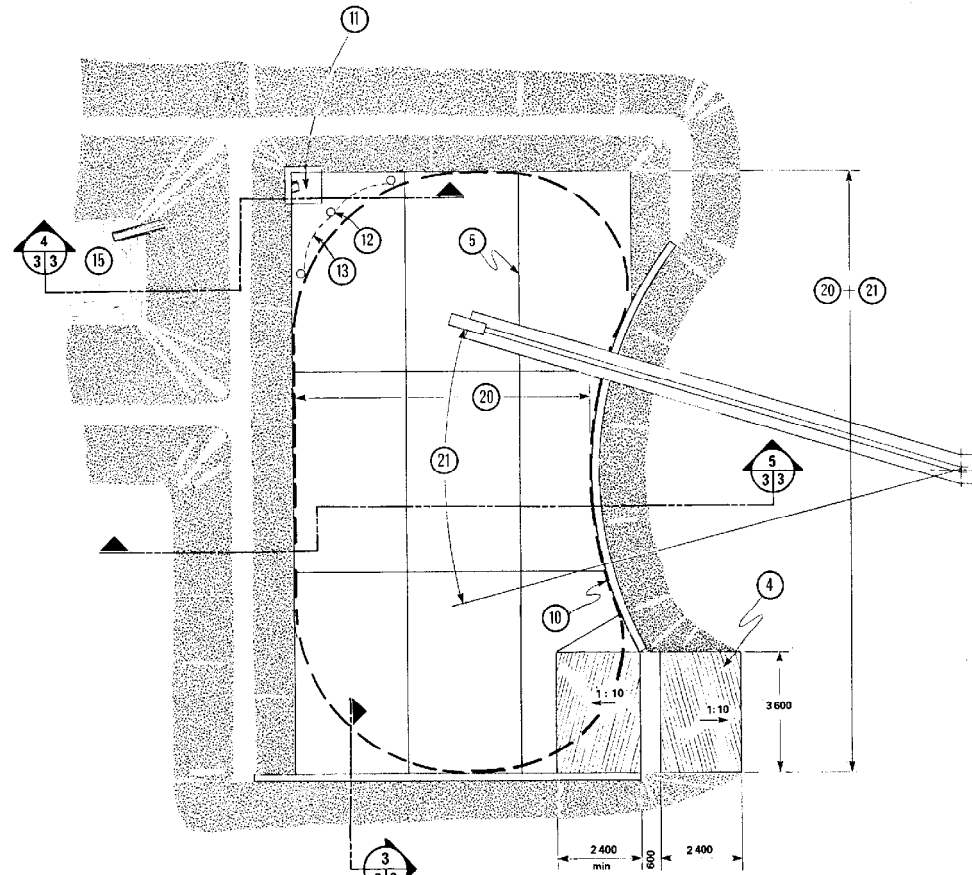
Stack Height	Stack Volumes (m ³) at Various Stack Diameters (20)				
(19) m	9 m	12 m	15 m	18 m	
3	64	113	177	254	
4	85	150	235	339	
5	106	188	296	424	
6	127	228	353	509	
7	148	264	412	594	

SYM REVISIONS CHECKED DATE APPROVED

CANADA PLAN SERVICE

SQUARE STORAGE SLAB FOR FIXED MANURE STACKER

DESIGNED *J.E.T.* DATE 79.05 PLAN
 DRAWN *L. MORGAN* REVISION **M-10707**
 TRACED
 CHECKED *H.A.J.* **ABC** DETAIL NUMBER **ABC** ORIGINATES ON SHEET **3** SHEET 2 OF 3



- 1 original grade line approx.
- 2 remove topsoil to firm undisturbed subsoil; if drainage is poor, add 150 mm crushed stone and compact
- 3 100 mm concrete slab, 30 MPa air entrained mix, surface finish textured wood float or equivalent, slope uniform to drain
- 4 125 mm concrete paved entrance ramp, surface rough sored finish, or grooved with rebar tamped into fresh concrete (for traction)
- 5 crack control joint (saw groove or tooled groove 25 mm deep) not over 4500 mm oc both ways
- 6 construction joint, asphalt felt bond breaker at huck wall (7)
- 7 concrete huck wall; if preferred, extend wall all around slab instead of earth bank 2 sides as shown
- 8 15M vertical L-hook rebars, and 15M horizontal rebars continuous, 600 mm oc max. bothways
- 9 topsoil backfill
- 10 concrete wall; top edge and radius of curve as per stacker manufacturer
- 11 sump at low corner 150 mm deep
- 12 1500 mm post set 300 mm into concrete, use 3" galv. pipe or 150 mm pressure treated wood
- 13 wood and wire snow fencing secured to (12) replace if damaged
- 14 6" min steel pipe or culvert, length is 2700 mm + 3 x (16)
- 15 holding pond lined with compacted clay outside and inside, banks above waterline finished with topsoil and seeded to grass
- 16 storage depth as required; do not excavate below water table
- 17 freeboard 600 mm above max liquid line
- 18 swing stacker; (see manufacturer for details such as discharge height (19), curb wall radius and stack radius)
- 19 maximum stack height, m
- 20 maximum stack width, m
- 21 maximum stacker swing, m

22 table of manure stack volumes based on

$$V = \frac{3.24 \times (19)^2 \times (20)}{12} + \frac{(19) \times (20) \times (21)}{2}$$

Stack Height	Stack Volumes (m ³) at Various Stack Diameters (20)			
	(21) = 9 m			
(19) m	(20) = 9 m	(20) = 12 m	(20) = 15 m	(20) = 18 m
3	185	275	379	497
4	247	367	506	663
5	309	458	632	829
6	370	550	758	995
7	432	642	885	1161
	(21) = 12 m			
3	226	329	447	578
4	300	439	596	771
5	376	548	744	964
6	451	658	893	1157
7	511	768	1042	1350
	(21) = 15 m			
3	266	383	514	659
4	355	511	685	879
5	443	638	856	1090
6	532	766	1028	1319
7	620	894	1200	1538

SYM	REVISED & RE-PRINTED	CHECKED	DATE	APPROVED
			82.05	H.A.J.

CANADA PLAN SERVICE

RECTANGULAR STORAGE SLAB FOR SWINGING MANURE STACKER

DESIGNED <i>LET</i>	DATE 78.05	PLAN
DRAWN <i>L. MORGAN</i>	REVISED 82.05	M-10707
TRACED	DETAIL NUMBER <i>A</i>	ORIGINATES ON SHEET <i>B</i>
CHECKED <i>H.A.J.</i>	DATE <i>B/C</i>	SHEET 3 OF 3