Go to http://delaval-us.com/Meet-our-customers1/DeLaval-Virtual-Farm-Tour/ to take a virtual tour of an actual robotic farm in Canada. It includes automatic milking and feeding.

Design summary

- 4 robots
- Free-flow cow traffic
- 240 cows (4 pens of 60)
- Post-milk sorting
- Centralized milking & work area
- Flexible layout, can be adapted for all cow traffic scenarios
- Expandible, can be mirrored to add 4 additional robots

Freestalls

- Sand bedded preferred, however mattresses also work if enough organic bedding on top
- 48" (122 cm) divider spacing minimum
- Brisket board & neck rail 70" (178 cm) from curb
- Neck rail 50" (127 cm) above bed surface
- 36" (90 cm) clear in front of brisket board for bobbing
- When many cows are perching, you've done something wrong

Post-sort separation pen

Long-term

- Cows have access to feed & beds
- Return to robot possible
- Near work area (Vet room & trim chute)

Short-term

- No beds, possibly no feed access either
- Cows must be removed promptly
- Common for retrofits

Feed lane

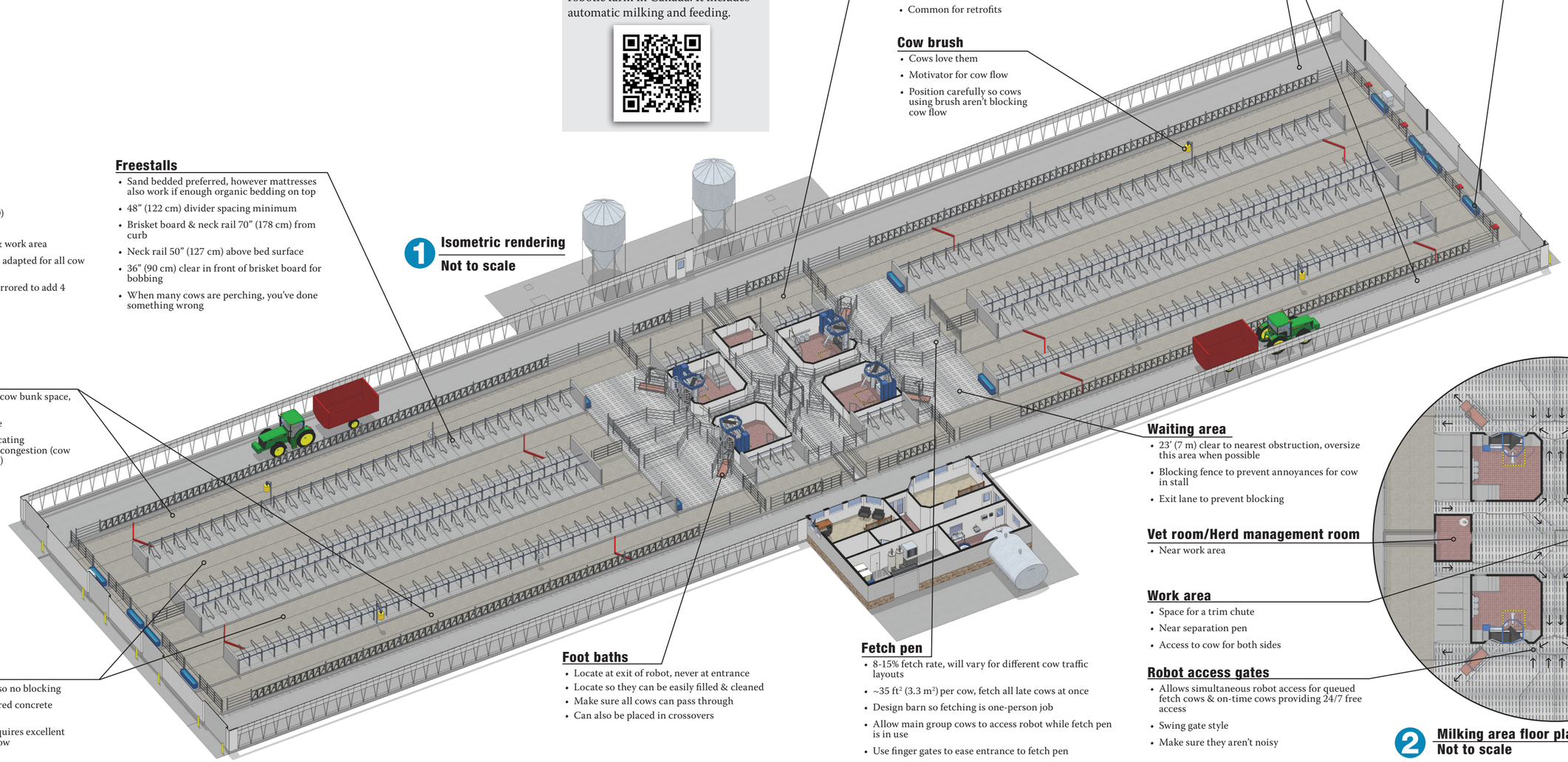
- 15-16' (4.6-4.9 m) wide if feeding on one side
- 18-20' (5.5-6.1 m) wide if feeding on both sides
- +6" (150 mm) above feed alley level
- Tiled manger preferred

Waterers

- Minimum two per pen
- Length of combined waterers to be +2" (5 cm) per cow
- Place where cow flow is not inhibited with cows drinking

Cow brush

- Cows love them
- Motivator for cow flow
- Position carefully so cows using brush aren't blocking cow flow



1 Isometric rendering
Not to scale

Feed alley

- 24-30" (61-76 cm) per cow bunk space, VERY IMPORTANT
- 12-14' (3.7-4.3 m) wide
- Be cognizant when locating equipment to prevent congestion (cow brushes, waterers, etc.)

Freestall alley

- 10-12' (3-3.7 m) wide so no blocking
- Rubber preferred, scored concrete typical
- Voluntary milking requires excellent cow comfort & cow flow

Foot baths

- Locate at exit of robot, never at entrance
- Locate so they can be easily filled & cleaned
- Make sure all cows can pass through
- Can also be placed in crossovers

Fetch pen

- 8-15% fetch rate, will vary for different cow traffic layouts
- ~35 ft² (3.3 m²) per cow, fetch all late cows at once
- Design barn so fetching is one-person job
- Allow main group cows to access robot while fetch pen is in use
- Use finger gates to ease entrance to fetch pen

Waiting area

- 23' (7 m) clear to nearest obstruction, oversize this area when possible
- Blocking fence to prevent annoyances for cow in stall
- Exit lane to prevent blocking

Vet room/Herd management room

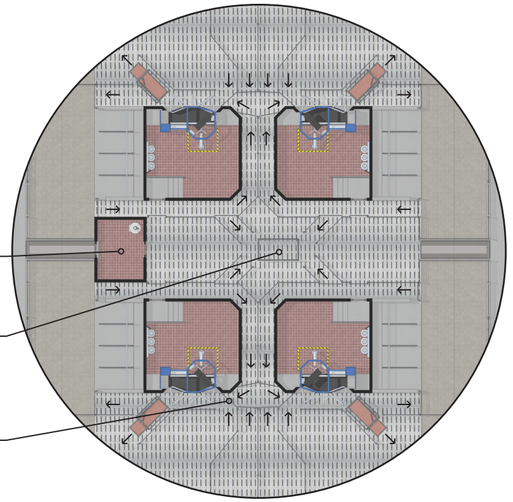
- Near work area

Work area

- Space for a trim chute
- Near separation pen
- Access to cow for both sides

Robot access gates

- Allows simultaneous robot access for queued fetch cows & on-time cows providing 24/7 free access
- Swing gate style
- Make sure they aren't noisy



2 Milking area floor plan
Not to scale