POTATO STORAGE — STATE HOSPITAL — JAMESTOWN, N.D.

VENTILATION SYSTEM

**Section Storage Area**

- Scale: 1/4" = 1'

- Window
- 10 30 Vent
- Minimum 72 insulation

**Triangular Air Duct**

- Scale: 1/8" = 1'
- Detailed view

**Floor Plan**

- Scale: 1/4" = 1'
- Potato Storage Area
- 1/2" fan diameter
- 1/2 HP motor
- Load corridor
- Side view
- Other side view
- Mixed fan
- Return air
- 1/2" 30 vent

**Recommendations**

1. Flow per min.
   - 820 CFM (1370 m³/h)
2. Triangular duct cross section area approx. 1.5 ft²
3. Static pressure in duct approx. 1/2" water
4. Approx. fan size 15" dia. 1 1/2 HP at 1" static pressure
5. Storage temp 70% @ 85% relative humidity
6. Minimum insulation in ceiling and equivalent to 4" along the walls (sunwell exterior) well with earth to get approx. 40
7. Use vapor barrier on warm side of ceiling
8. Work area sealed to make plenum chamber
9. Inlet duct to fan should not be smaller than fan discharge
10. Inlet duct may get fresh air from another source other than the window indicated
11. Mixed fan over potatoes may help move air to fan
12. Heaters may be installed in plenum chamber to warm up air below 40°F to 50°F
13. Batteries may be automatically controlled by thermometer in inlet duct to fan
14. Doors may be taken down by one or two sealed doors.