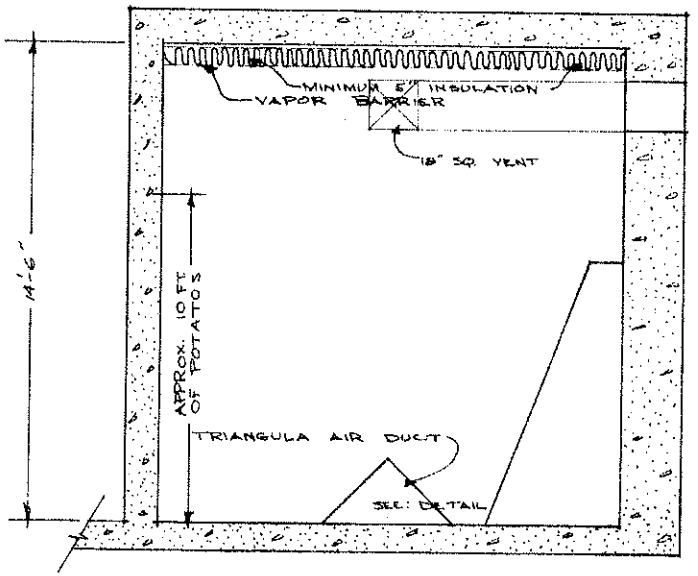
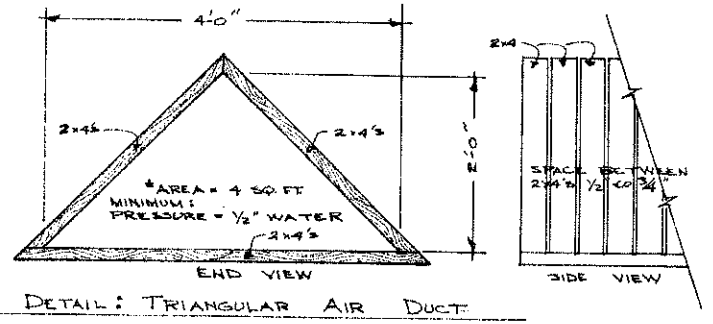
PROPOSED: POTATO STORAGE — STATE HOSPITAL — JAMESTOWN, NO. DAK.

VENTILATION SYSTEM



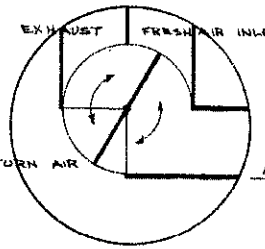
SECTION STORAGE AREA

SCALE: 3/8"=1'-0"

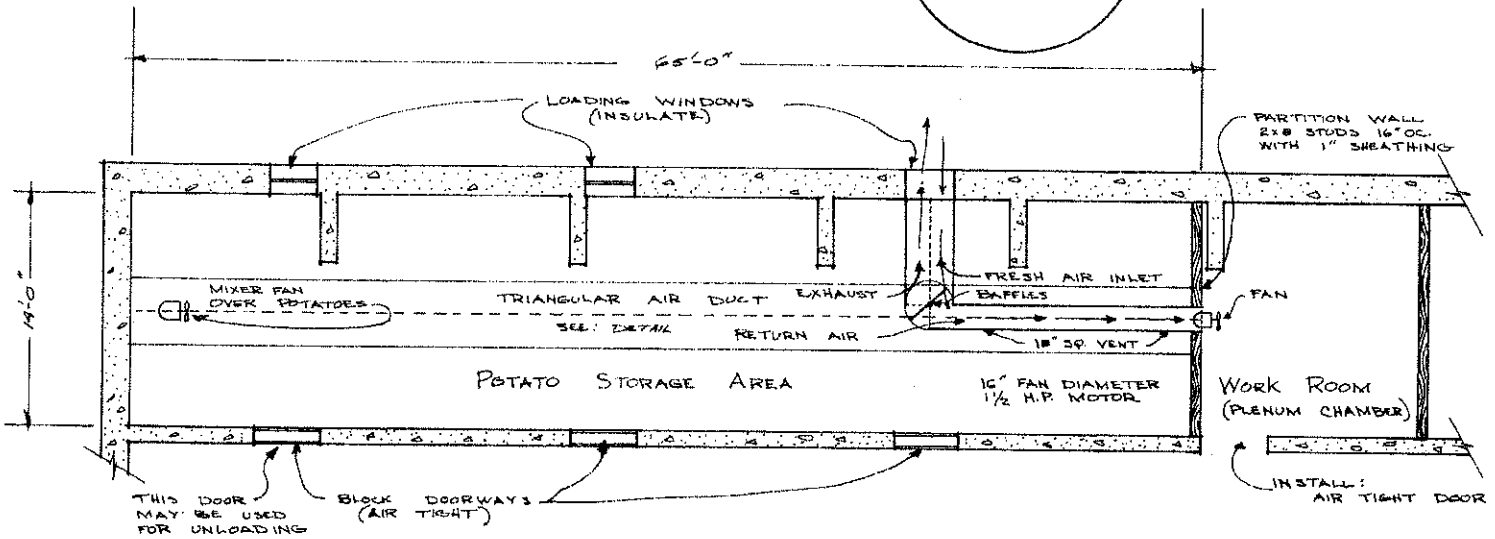


DETAIL: TRIANGULAR AIR DUCT

SCALE: 1"=1'-0"



BUILD TRIANGULAR AIR DUCT IN 4' UNITS



FLOOR PLAN SCALE: 3/16"=1'-0"

RECOMMENDATIONS

1. FAN CAP. APPROX. 3,800 CFM (1 CFM PER 100 WT.)
2. TRIANGULAR DUCT CROSS SECTION AREA APPROX. 4 FT.²
3. STATIC PRESSURE IN DUCT APPROX. ½" WATER
4. APPROX. FAN SIZE — 16" DIA., 1½ HP AT 1" STATIC PRESSURE
5. STORAGE TEMP. 40°F @ 80% REL. HEMIDITY
6. 5" MINIMUM INSULATION IN CEILING AND EQUIVALENT TO 4" ALONG THE WALL (BACKFILL EXTERIOR WALL WITH EARTH TO GET APPROX. 4"
7. USE VAPOR BARRIER ON WARM SIDE OF CEILING
8. WORK AREA IS SEALED TO MAKE PLENUM CHAMBER
9. INLET DUCT TO FAN SHOULD NOT BE SMALLER THAN FAN SHROUD
10. INLET DUCT MAY GET FRESH AIR FROM ANOTHER SOURCE OTHER THAN WINDOW INDICATED.
11. MIXER 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 40°F
13. BAFFLES MAY BE AUTOMATICALLY CONTROLLED BY THERMOMETER IN INLET DUCT TO FAN
14. POTATOES MAYBE TAKEN FROM BIN BY ONE OF THE SEALED DOORS

POTATO STORAGE VENTILATION
3800 CWT CONC. STORAGE
NDSU EXT. AGRIC. ENG'NG
1970 PWB
N.D. 835-3-1 1 SH.