

## Facility Engineering Services, PA Project Profile



**Project Title:** New ADM Grain Elevator

**Client:** Hogenson Construction of North Dakota

**Project Location:** Surrey, ND

**Project Description:**

Facility Engineering Services provided design engineering services on a new grain storage elevator located in Surrey, ND. This elevator consisted of a 36 inch thick mat foundation with an associated reclaim tunnel. There were six 36 ft diameter silos with 8 inch walls and a single 76 ft diameter silo with 10 inch walls. The 76 ft diameter silo was constructed with an aeration system in the floor and the six 36 ft diameter silos had Luft Kanals. The new annex was connected to an adjacent elevator with a new bridge and distribution system.

**Design Issues:**

These silos were constructed for eccentric discharge and had high bearing pressures that needed to be evaluated. Additionally, the design was done on a short schedule.

**Benefits:**

Facility Engineering Services was able to meet the short design schedule requested by the contractor and owner. We were able to account for eccentric discharge forces in the walls. To handle the high bearing stresses we used the finite element approach to determine the distribution of the bearing forces.