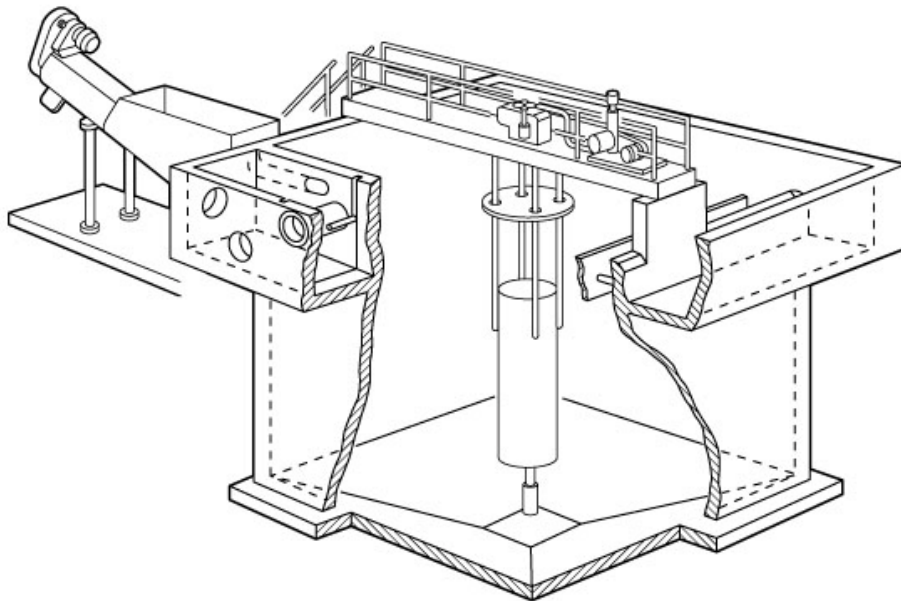


ROLLING GRIT

Aerated Grit Separation System

PRODUCT USER TESTIMONIAL

January, 2000



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FOX METRO WATER RECLAMATION DISTRICT (SERVING METROPOLITAN AURORA, IL)

Fox Metro Water Reclamation District (<http://www.foxmetro.dst.il.us>), (formerly Aurora Sanitary District), operates one treatment plant that has been expanded frequently since its origin in the late 1920's. This facility lies just south of Aurora, IL, and serves Aurora and four surrounding communities. Today this facility serves a population of over 140,000, and has a design flow of 42 MGD.

In 1968, three traditional (for that time) aerated grit chambers were installed into this facility, each measuring 5' wide scraping width X 61' long, equipped with Self-Elevating grit collectors. These units served this facility until 1991, when they were replaced by two (2) Rolling Grit units, 33' sq. X 14' SWD. (These are still used to handle overflows in excess of 50 MGD.)

Each basin is equipped with a single 42" eductor tube with five (5)-2" air lances dispersing 275 cfm of air at a depth of 11.5'. Grit is withdrawn from the bottom center with mechanical grit pumps, discharging into grit washers, and then trucked to a sanitary landfill for disposal.



Since the 33' sq basins are larger than those shown in our standard selection table, the following shows a comparative application rate with our standards:

The two basins together were designed to handle peak flows of 50 MGD, which equates to a detention time of 6.6 minutes, and a rise rate of 16 gpm/sq ft, compared with WPE standards of 5-6 minutes, and 16 gpm/sq ft, respectively. The air supplied is equivalent to 18 scfm/1000 cu ft, compared to WPE standard 18-20 scfm/1000 cu ft (volume is simply plan area X SWD, and does not include the hopper volume).

As of this writing, the new grit basins have been in use for over 7 years. We contacted Carl Kieffer, Plant Manager of Fox Metro WRD, for any information he could provide regarding results obtained with the new grit basins vs. the old, traditional aerated, chain-and-bucket grit basins.

Carl reports that the plant records indicate that they are hauling away 30% more grit (by weight) than they were with the old units, indicating greater capture. One might believe that this is due to the expanding service area, but Carl reminds me that a considerable amount of sewer work has been done in that time period, both in tightening up sewers and in separating sanitary from storm sewers, so that 30% increase in capture is, in his opinion, a real measure of the greater efficiency of the Rolling Grit units.

"But," said Carl, "let me tell you what I really like about these new units. There are no moving parts, and I no longer have to worry about the tremendous maintenance headache of the ponderous chain, bucket and sprocket mechanisms of those old units!"

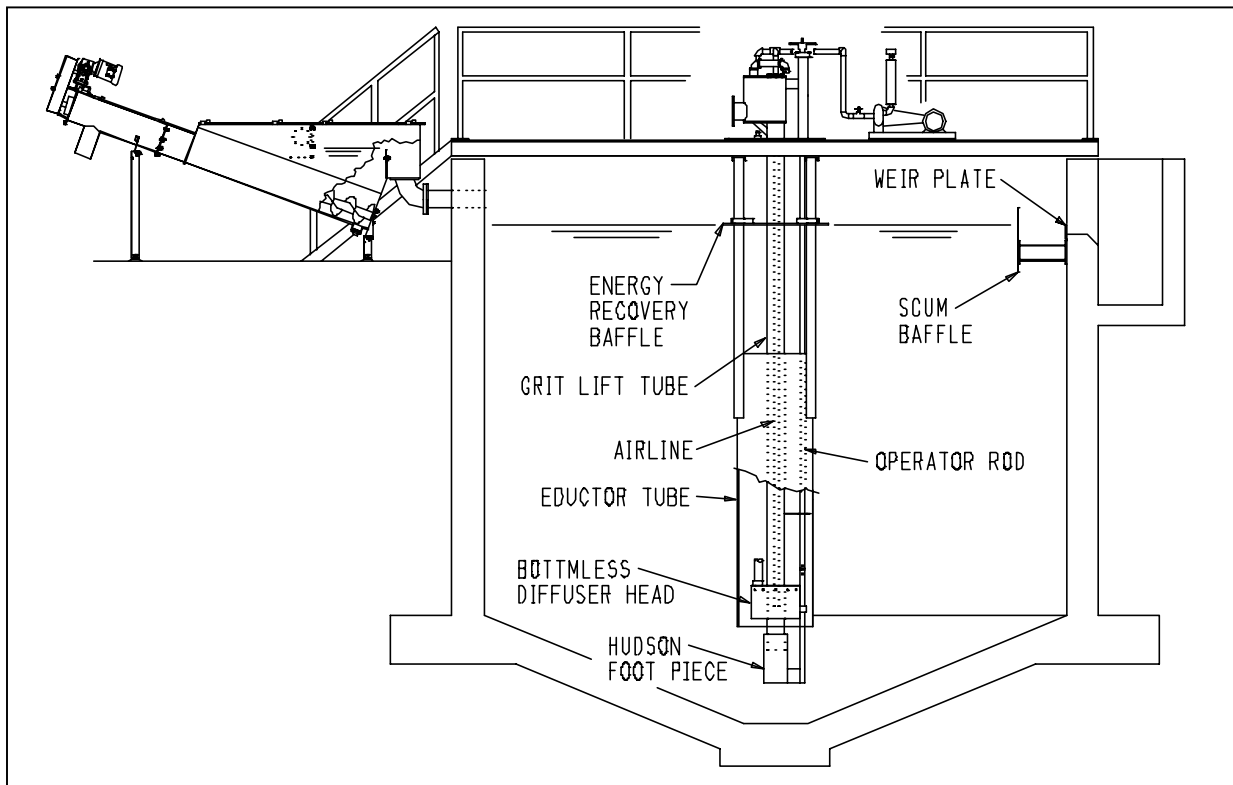
The Rolling Grit unit was developed and first marketed in 1964, and since that time there have been over 200 installations.

The Rolling Grit has the following advantages:

There are no moving parts below the liquid level.

- The operative force is pressurized air released within a draft tube, rolling the basin contents to enable separation of organics from grit, while at the same time providing what realistically could be termed preaeration.
- The air rate can be adjusted through the use of a throttling valve; ideal air rate maintains organics in suspension to continue on through the primary clarifier, but is not so intense to prevent the grit particles to settle to the bottom of the basin.
- The grit may be removed either by an airlift pump mounted in the center of the eductor tube, or alternately with a mechanical grit pump, either of which pump from the center bottom of the basin.

Compared to competitive grit collection basins, the Rolling Grit in all likelihood is the premier grit removal device on the market.



Typical Rolling Grit Assembly
