



KWS Grit Screw Conveys
Grit to a Pump

End User or Owner
Brodhead Creek Regional Authority
East Stroudsburg, PA

Consulting Engineer
Glance Engineer
Camp Hill, PA

Contractor
Blooming Glen Contractors
Perkasie, PA

Plant Name and Location
**East Stroudsburg Wastewater
Treatment Plant**
East Stroudsburg, PA

Submerged Grit Screw and Ceramic-Lined Grit Classifier for the East Stroudsburg, PA WWTP

General Description of the Application

In 2011, the Brodhead Creek Regional Authority (BCRA) assumed ownership and operation of the former Stroudsburg Sewer Plant. The facility can treat 4.5 million gallons of sewage per day (MGD) and has greatly improved the quality of the treated effluent discharged into McMichael's Creek. BCRA designed a larger, more modern new facility with renovations to the existing plant to meet the needs of the municipalities it serves as well as the environmental permit requirements. The most recent project updated the headworks area with removal of the grit air headers, grit blowers, grit screw, bucket elevator, motors, controls, piping and valves. The new equipment included a submerged shafted grit screw conveyor and a grit classifier, all supplied by KWS Environmental.

Design Parameters of Application

Product Type: Grit
Material Density: 120 Lbs. per Cubic Foot
Capacity: 12 Cubic Feet per Hour
Duty: 7 days a week, 24 Hours per Day

Advantages Provided by KWS

The plant's existing grit removal system had an unreliable and inefficient bucket and chain system. KWS, along with their rep for the area, helped the consulting engineer determine a better design that utilized a submerged screw conveyor for conveying grit to a pump. The grit and water slurry were then pumped to a grit classifier for separation of grit from the liquids.

KWS engineers provided the consulting engineer with layout drawings and specifications to ensure a proper design. Together, KWS and the consulting engineer investigated several methods of driving the submerged grit screw, including a submerged hydraulic drive and an above-ground chain drive. The chain drive was selected to ensure the maintenance items like the motor and gear reducer were located above the water line. A KWS engineer traveled to site to conduct installation verification and startup of the equipment.

Special Features of KWS Design

The grit screw utilized adjustable hanger bearing supports to allow the contractor to level and align the grit screw with no issues. The submerged chain is made of a 403 stainless steel grade suitable for wastewater applications. The chain drive is adjustable vertically to ensure proper chain tension. The KWS Environmental shaftless grit classifier hopper, troughs and covers were constructed from 304 stainless steel for corrosion resistance. The shaftless spiral was made from the exclusive KWS-350 micro-alloy material that is the strongest and toughest spiral on the market. The troughs were lined with ½-inch thick ceramic tiles, ensuring a tremendously long maintenance life while handling the coarse and abrasive grit. The electrical components were designed to be explosion-proof, typical of a headworks classification.



**Design
Engineering
Manufacturing**

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Testimonial

"The KWS equipment installed and started up without any issues. Thank you for the timely responses on design changes and questions."

- Scott Dressel – Project Manager, Blooming Glen Contractors



Special Adjustable Hangers
Made Installation Easy



Motor and Gear Reducer are
Located Above the Water Line



KWS Grit Classifier Separates Grit from Liquid



Clean Water is Returned to the Process



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