

BKW, Inc.

Costing Auger Anchors and Weights for Pipeline Buoyancy Control

The costs presented are for a typical 36" pipeline in a flood plain with the use of standard cross-country pipeline construction techniques. The cost of installing weights is approximately the same for concrete set-on weights or sacks.

On a 36" pipeline, the usual method when using weights is installing 9,000-pound weights on 10-foot centers. This will provide a specific gravity of around 1.15. Method of weight installation requires a yard near the pipeline for the weight contractor to fabricate the weights or sacks. The pipeline contractor will pick up the weights and haul them to the pipeline right of way. This requires a backhoe or crane to load the weights on a truck for transportation to the jobsite. A truck will haul around five 9,000-pound weights for a total load of 45,000 pounds.



Concrete weights on right of way ready to be installed

When the truck arrives at the pipeline right of way, a backhoe will unload the weights from the truck and a sideboom will then haul two weights to the required location. Three trips by the sideboom will be required to hold down 50 feet of pipeline. Cost of installing 50 feet of hold down will depend on the distance the truck and sideboom has to haul the weights.



Concrete weights being installed on 36" pipeline

Auger anchors are installed using a backhoe capable of applying an 18,000-pound pull test on the installed anchor which is usually a CAT 336. Anchors on a 36" pipeline are usually spaced at 50-feet to provide a specific gravity of 1.35 thus replacing five 9,000-pound weights. The anchors are shipped by truck from the fabricators to the jobsite. Approximately 160 anchor sets are shipped per truck representing 8,000 feet of pipeline hold down. The installation backhoe will pull a sled loaded with anchors. There are enough anchors on the sled to install approximately 3,000-feet of pipeline hold down, which is the average installed per day.



Portable trench box being used with divers

The cost of installing anchors or weights is approximately the same and if it was \$1,000.00 each the cost savings would be \$4,000.00 per anchor since the anchor replaces 5 weights. For a pipeline requiring 1,000 anchors or 9.5 miles of hold down, this is a savings of \$4,000,000.00 for buoyancy control.

BKW has developed a Portable Trench Box designed to allow workers in the ditch without digging a FERC ditch. This box will save time and energy because of the reduced amount of dirt required to meet FERC requirements. The box will be transported from anchor site to anchor site using the anchor installation backhoe, therefore, no additional equipment is required. The box is equipped with a walkway and gang plank to assist the workers entering and exiting the box from the bank.



FERC ditch showing extra material excavated

BKW can provide an economical buoyancy control system for your pipeline. If you need more information please contact us.

Contact us at
918-836-6767

or by email at bkwinc@aol.com

www.bkwinc.com