

2014 You Show Us
THE TUMBLEWEED EATER

El Paso County
Public Services Department – Highway Section
Troy Wiitala, Highway Manager
3275 Akers Drive, Colorado Springs, Colorado, 80922
1-719-520-7835
TroyWiitala@elpasoco.com

Problem Statement

2013 was an extraordinary year for an abundant growth of tumbleweeds in the southeastern portion of El Paso County causing road closures and road hazards, and subjecting the motoring public to piles of weeds on the roadway. The weeds needed to be removed off the roadway to eliminate the hazard.

Discussion of Solution

Evolving Methods:

Initially, El Paso County had a dedicated crew to tumbleweed removal almost daily for seven months. We experimented with construction equipment, snow removal equipment and mowing equipment. We tried crushing, grading, chopping, and blowing the tumbleweeds out of the Right-of-Way (ROW), each with mixed results. Each iteration showed improved productivity; but still not completely effective. A crew of 6-8 employees plus up to 6 pieces of equipment were needed to pull tumbleweeds out of the ditch; mow them, and then blade the debris back into the ditch. This process kept road surfaces clear, but ditch lines remained full.

Old process, cost to date (November 2013 – April 2014): \$264,000; mostly sunk into labor and equipment. We continued to research better methods, and became aware of Crowley County's effort to modify a farm implement. We visited and learned lessons from their operation.

New Solution

We began a regional search for a used forage harvester; and obtained advanced approval from the El Paso County Board of Commissioners to purchase equipment not to exceed \$50,000. We located a 1995 John Deere 6910 Forage Harvester at a farm implement dealer in Kansas.

Our employees' ingenuity transformed the Forage Harvester into a ***Tumbleweed Eater***. County fleet mechanics, welders and equipment operators collaborated on a design to draw the tumbleweeds into the machine and finely chop them. We spent six weeks mounting the grain head reel, adding hydraulics and cooling from parts on-hand, and fixing various mechanical and safety items.

As the equipment is utilized, experience will guide any future modifications to the machines and methods. Other agencies are already inquiring and looking at our machine to develop their own version. We documented development of the process on video through the El Paso County Public Information Office. Here is a link to the video produced outlining the process:

http://youtu.be/9cDYCqOmIVs?list=UU_rkmrgBnMU9BrAbRWrnThg

Total Cost

The crew includes the Tumbleweed Eater and skid steer loader with grapple attachment; other crew and equipment returned to normal seasonal priorities. We purchased the machine with a hay head, used grain head reel, and delivery for \$46,000. The total labor and parts cost to modify the Tumbleweed Eater

amounted to \$40,000. The total purchase cost plus modifications and repairs to become fully operational totaled \$86,000.

Savings and Benefits to Agency

El Paso County enhanced safety for the motoring public with an effective tool to remove tumbleweeds from the roads. We increased efficiency; motor graders and mowing equipment returned to other priorities. We reduced crew size and the number of assets and equipment required to complete the job. The crew size was reduced by 5-6 operators; and we reduced pieces of equipment by 4.

The Tumbleweed Eater should prove to be a cost effective solution to battle tumbleweeds for many years to come. We'd like to give credit to Crowley County for their development efforts and for giving us a starting point in our own equipment development.

John Deere 6910 modified into Tumbleweed Eater



Skid Steer Loader with Grapple Attachment

