

B BROWN BEAR

NEW FORESTRY SHREDDER DOUBLES CLEARING OUTPUT



Shreds up to 8 - 10" diameters.

Halfway through their multi-million dollar 108-mile interduct installation project in central Illinois, M&P Utilities, Inc., Hamel, Minnesota, replaced the usual array of brush clearing tools with a new Model FS4000 Brown Bear Forestry Shredder.

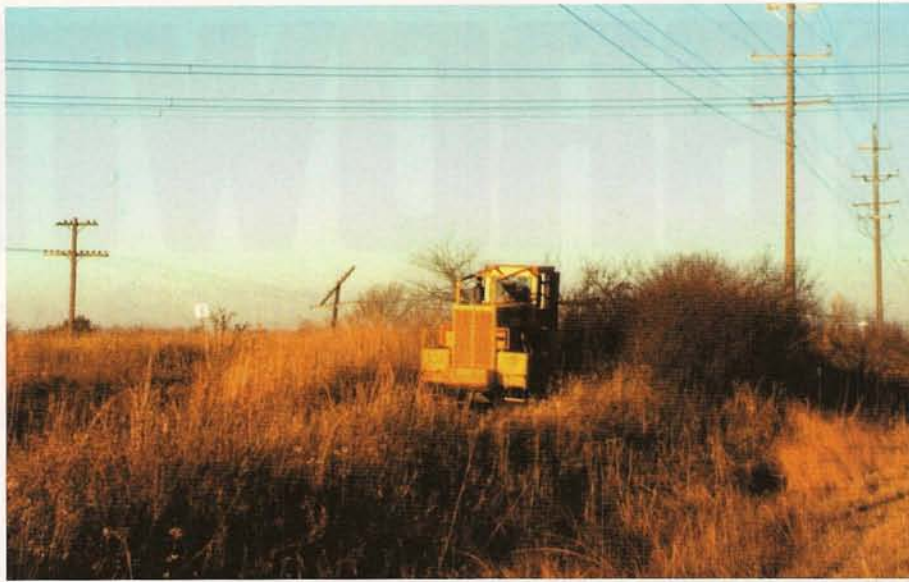
Especially designed to increase land clearing production, the newly-available machine applied its 28,000 lbs of weight, 225 hp and 9'5"

powered single-step feller/cutter/mulching system to more than double the output of the mower-equipped industrial tractors, rippers and dozers previously used to clear the right-of-way ahead of customary cable-placement equipment.

In one pass, the unit's 54 sharp heat-treated drum-mounted cutters rotated under power at 1400 rpm to mulch all kinds of brush. Their force

shaved off trees at ground level, leaving smooth stumps, not sharp stobs. Hardwoods as big as 10 inches in diameter ended up, like brush, as mulch. The biggest tree handled here by other equipment measured 4 inches in diameter, necessitating all larger growths to be felled, cut to lengths and removed by hand.

With the new machine, cutter rotation around a horizontal axle, like a reel-type lawn



Shredding multiple years growth.

mower, reduced flying debris, personnel danger, liability and resident complaints. Older powered units, cutting like rotary mowers, hurled some wood chunks, rocks and other solids up to several hundred feet. The Brown Bear's design directed material down and under itself, with minimal front or side discharge. Its greater capacity enabled it to provide sufficient production so that it alone handled the clearing job. Compared to the several clearing machines needed previously, its use cut overall operating costs. And having only one clearer in action reduced traffic control problems wherever the installation right-of-way neared highways or railroad tracks.

Levels 100-year growth

Like most new utility line installations made today, the

project sponsor had arranged for this communication connection to be placed underground within a railroad right-of-way — in this case, the Union Pacific's 297-mile mainline between Chicago and St. Louis. About 10 years had elapsed since the last preceding utility had been installed (by MCI) there. In some places, the path of the new line lay through woods and brush uncut since the original railroad construction over 100 years earlier — in others, vegetative growth had gone on unchecked over the decade since placement of similar utility lines. While workers could push their way through part of the route, even the smallest tractor had insufficient room to progress. Project specifications called for placement 25 to 50 feet from the tracks, regardless of brush and tree populations,

depending instead on right-of-way width and location of existing underground utilities. Six were already in place throughout most of the 570,240 lineal feet — railroad signal wires, natural gas lines, electric power line and three other fiber optic interducts. The new line had to be located at least 5 feet away from each of the others, generally on the lesser congested side of the railroad right-of-way (which varied from 20 to 60 feet on both sides of the tracks).

Bigger trees, wider swath

Naturally, a work path had to be cleared so that installation personnel could operate efficiently.

Clearing also facilitated movement of the contractor's various duct-laying machinery.

Of the 60 workers assigned to the project, the greater productive capacity of the



No flying debris.

Brown Bear unit required only its one operator for its part of the overall job.

At its start, such clearing equipment as a tiller-equipped farm-type tractor worked to clear two adjacent swaths, each 4 feet in width. A flail-type industrial tractor, also tried, cleared a path 5 feet wide. In both cases, all trees over 4 inches in diameter were handcut with chain saws and both logs and brush were reduced by a portable chipper. The new Forestry Shredder cleared a path 8'2" wide. It shredded trees 2½ times the diameter of before. And in one or two trips it left a fairly fine mulch that needed no further handling.

It was this clearway that located placement of 12 separate interducts in a 4 foot x 3 foot pattern, 4 feet underground. M & P's familiar installation equipment simultaneously knifed a slot-

like trench, rolled in the ductwork from large tractor-transported separate reels, positioned each duct length and backfilled.

A cleanup dozer re-dressed the right-of-way and, where required, disked or harrowed it to provide for follow-up seeding with various hardy grasses.

Started in August, the entire 108-mile right-of-way was cleared and installations handled to Level 3's satisfaction by early January. Work duration included four to six complete stoppages each day to allow the unimpeded passage of Union Pacific freight trains. In many cases, the clearing/installation shift, scheduled for 10 hours, was reduced to 4 actual workhours per day.

Overcomes other problems

In several dozen places, rainwater and creek crossings

made for very soft footing — a potential problem routinely overcome by the Forestry Shredder's limited-slip planetary drive axles, high-flotation 28L x 26LS2 tires, and coordinated crab steering.

The same features helped the new unit easily negotiate steep banks.

In most cases, the unit's felling pass also chipped most of the material so no other processing was needed except, in a few places, spreading the residue to eliminate piles.

Larry Emery, for 29 years a phone company installation manager and for 3 years M&P's project manager, expressed a high degree of satisfaction with the new feller-cutter-mulcher machine.

The working head of the unit overlaps its cutters and allows for quick changing of individual teeth, he states.



Cleaning all the row.



Row accessibility by men and machine.

Component protection is provided by belly pans, sweeps, wiremesh guards, rollover bars and a completely enclosed high-visibility operator's compartment.

Cutter driver and transmission are both hydrostatically controlled so that mulching and ground speeds can be infinitely matched to the workload. Most of the time, the FS4000's veteran operator worked in first or second gear, 1 to 6 mph, 88 to 528 fpm. Highway travel

speeds averaged 20 mph. Machine weight, long wheelbase and wide tread maintained balance and smooth ride, boosting both production and operator safety, Energy noted.

Clearing of an 8'2" swath was accomplished on this project in a single pass at an average ground speed of 3 mph.

Where specs call for widespread clearing, the machine levels and mulches up to 3 acres per hour, its

exact output depending on terrain, thickness of growth, frequency and size of trees.

So much did M & P Utilities, Inc. like the Forestry Shredder than no sooner had it completed clearing on the 108-mile Illinois project than the Minnesota firm converted its lease to a time-purchase plan, and sent the unit a thousand miles to handle similar work on a similar 135-mile fiber optic cable installation contract in east Texas.

Three Brown stripes . . . the sign of quality

