

# Project Profile

## Chaparral Steel Virginia Steel Recycling Plant Petersburg, VA

### End Use:

Steel Recycling Plant

### Client:

TXI/Chaparral

### Size:

330'x807'x50' Eave Hgt.

242'x351'x50' Eave Hgt.

154'x283'x50' Eave Hgt.

132'x175'x53' Eave Hgt.



Heavy Structures provided the structural steel design along with the materials for roll line and cooling beds of Chaparral's Virginia facility. Covering more than 425,000 sq. ft., the building stretches for over a quarter mile. The frames consist of built-up sections for roof beams and shop-fabricated trusses for columns. Frames vary in width from a 154' single span across the cooling bed bays to a 330' three-span condition across the mill and finishing bays. A series of high-use cranes, ranging in capacity from 15 to 50 tons, are supported by open-web columns that also provided support for utility trusses that run the length of the facility.



Equipment layouts and material flow necessitated the removal of several interior columns. In these areas, 70' long built-up girders weighing 20 tons each supported the overhead cranes. An 11' deep, 140' long girder was designed and supplied to carry an overhead crane across a material pass-through an opening in one sidewall. The girder contained two field-bolted splice, weighed 43 tons and was laced at the top and bottom flanges to a 16-ton backup truss at the building column line. A 55' wide clamshell monitor was required in the cooling bed, where a raised roof assembly provided support.

