

electrical

mechanical

structural

architecture

statistics

project team

**owner** - 515 Granby, LLC.

**architect** - Humphreys & Partners Architects, LP.

**structural engineer** - Abiouness, Cross and Bradshaw, Inc.

**mep engineer** - Jordan & Skala Engineers, Inc.

**civil engineer** - LandMark Design Group

**construction manager** - Turner Construction Company

**size** - 717,233 sq ft

**height** - 32 levels, 450 ft to spire

**site area** - 2.32 acres

**occupancy** - mixed use (luxury condominiums, offices, and shops)

**cost** - \$181,000,000

**construction** - July 2007 - September 2009

**delivery method** - GMP

**style** - postmodern, high-rise

**envelope** - hand set panelized curtain wall with store front built in place on lower levels highlighted by aluminum cladding throughout.

**conveying system** - 5 elevators (3 passenger travel 31 floors, 1 freight travels 32 floors, 1 hydro from first to second level)

**appeal** - great views overlooking Elizabeth River from tallest structure in Norfolk.

**lateral system** - cast in place concrete shear walls ranging in size from 14" to 24" thick and centralized concrete core

**slabs** - post-tensioned flat-plate

**foundation** - 1233 pre-stressed, square concrete piles range in size from 90"x14"x14" to 80"x12"x12", main mat consists of 1250 yds. of concrete and 255 piles.

**framing** - 3 floor townhomes partially wood framed

**equipment** - (2)100% outdoor air hydronic cooling units, forced draft cooling tower with 16500 MBH heat rejection capability, and 2000 MBH natural gas boiler

**system** - 4 pipe system with individual exchangers in each unit and boilers and chillers on top floors

**residential** - split system heat pumps (1.5 - 2.5 ton) in townhomes and water source heat pumps (1.5 - 8 ton) in tower homes

**risers** - subpanels every three floors with (2) 3 phase, 208V busses, each serving 15 floors

**distribution** - 120/208V in units and 277/480V for equipment, dedicated 120/208V underground electric service for residential/retail

**emergency** - 500KW diesel generator at 277/480V

granby tower - norfolk - virginia



tom yost - structural  
<http://www.engr.psu.edu/ae/thesis/portfolios/2008/thy100>