

**ENGINEERING APPLICATIONS – PROJECT DESCRIPTION****James Hardie – Mechanical Installation of Carole Park Capacity Project**

<b>Client:</b>	James Hardie Carole Park QLD
<b>Project:</b>	Mechanical Package for Carole Park Capacity Project
<b>Duration:</b>	May 2014 to May 2015
<b>Man Hours:</b>	Design – 3,200
	Fabrication – 25,300
	On-site Installation – 48,200

**Description of ENAP's Scope:**

ENAP was awarded the Mechanical Package for the Carole Park Capacity Project for James Hardie who were increasing production through addition of another manufacturing line. This major project is the largest project that ENAP has undertaken spanning design and detailing, fabrication and site installation works. The main scope was the installation of mechanical equipment supplied by a German manufacturer with much of the installation completed to very fine fitting tolerances critical to the success of the equipment.

ENAP's scope included being appointed Principal Contractor at completion of building works, and managing safety of other contractors to James Hardie (electrical), ENAP's sub-contractors and overseas representatives of equipment suppliers.

ENAP's scope included:

Raw Materials Area:

- Installation of two bolted assembly silos
- Fabrication and installation of dense phase and compressed air pipework

Mix Plant:

- Detailing, fabrication and installation of structural steel modifications in operating Brownfield plant, including creative design of temporary lifting frame to hoist equipment through building
- Installation of client supplied mechanical equipment, including day bins, weigh hoppers and vibrating feeders
- Detailing, fabrication and installation of structural steel platforms coordinated with mechanical equipment installation
- Completion of dense phase pipework from silos

#### Feed Plant

- Installation of Sheet Machine – critical piece of equipment in fiberboard manufacturing installed to very fine tolerances
- Detailing, fabrication and installation of structural steel platforms, including grid mesh and handrails
- Design, fabrication and installation of tanks and hoppers
- Installation of mechanical equipment – pumps, vacuum pumps, agitators
- Design, fabrication and assembly of Roller Screen, including over 8000 parts in mechanical rollers, including 1000 machined components
- Design, fabrication and installation of Scrap Shredder (dual hard-faced screw conveyors), Scrap Incline Conveyor Belt and Scrap Pulper
- Design, fabrication and installation of slurry, water and vacuum process pipework
- Design, fabrication and installation of plant air and water systems

#### Green Sheet Area:

- Installation of German manufactured Green Sheet conveyors, scrap conveyors, roller conveyors and vacuum stacker
- Detailing, fabrication and installation of structural steel platforms, including grid mesh and handrails
- Supply and installation of machine guard fencing
- Design, fabrication and installation of plant air and water systems
- Design, fabrication and installation of Autoclave Bridge system with actuated bridges

#### Finishing Building:

- Installation of German manufactured conveyors, scrap conveyors, roller conveyors, vacuum unloader and stacker, sanders and saws and packaging equipment
- Installation of USA designed pre-heat oven, main cure oven and cooler, including chain conveyors for board transfer, including installation of natural gas copper piping
- Detailing, fabrication and installation of structural steel platforms, including grid mesh and handrails
- Supply and installation of machine guard fencing
- Design, fabrication and installation of plant air and water systems
- Design, fabrication and installation of dust collector ductwork and supports

ENAP's work extended to provide commissioning and operational support upon commencement of the entire project, including trouble-shooting and modifications to numerous pieces of equipment. This included direct input from our mechanical engineering design team to develop solutions to improve interfacing and operation between various pieces of mechanical equipment to attain required performance. This included the design, fabrication and installation of an additional Pallet Gantry in Packaging Line of the Finishing Building to interface operationally with the Grenzenbach supplied equipment.



