


The background of the entire page is an aerial photograph of a large industrial construction site. In the foreground, a complex steel framework for a building is visible, with several vertical columns and horizontal beams. Behind it, a long, white building with a corrugated metal roof is under construction. The site is surrounded by dirt roads, parking lots filled with cars, and various pieces of construction equipment. In the distance, there are green hills and a winding dirt road.

# WOOD PRODUCT SOLUTIONS

Delivering value from emerging technology to the sawmill and timber industry





HGA provides comprehensive engineering and technical expertise for modern timber processing. Building upon prior experience, our team of engineers, construction experts and project managers applies best practices to utilize functional and emerging technology solutions to improve the facilities of tomorrow. For over 20 years, we have successfully executed grassroots facilities, plant expansions, revamps, feasibility studies, and provided in-plant contract management services for clients. Our seasoned experts understand the new technologies in wood processing and can help mill operators improve and enhance production operations.



Our teams work closely with our clients to identify and implement solutions to ensure that their specific objectives to improve performance and profitability are met. We bring expertise to the entire life cycle of the wood process industry, from engineering and technology to consultancy, construction management, and maintenance.

**We offer a complete range of services in these areas:**

- Engineered wood products technologies
- Oriented strand board plants
- Non-structural panel facilities
- Sawmill enhancements to complete mills
- Plywood process operations
- General wood products operations

**Let us help you:**

- Design the optimal sawmill plant layout for new assets
- Optimize efficiency from existing plants
- Design and deliver plant retrofits
- Diagnose and resolve production issues
- Improve processes that affect plant performance
- Take advantage of new process technologies
- Coordinate and manage sawmill construction projects
- Expand plant capabilities

**Clients report that HGA wood products team has helped them:**

- Accelerate the development of new sawmills
- Reduce manufacturing costs
- Streamline processes
- Reduce labor costs
- Enhance plant safety

---

**Developing Sawmill Plants**

HGA has a long history in wood products and is an industry leader in the engineering, planning, and manufacturing processes for the wood products business. We offer quality through our experienced project management, engineering services, and business solutions.

When plant production is hindered by inefficient processes or plant technology, HGA can help. Our team of experts works with you to improve processes and technologies—all while enhancing plant operations and safety.

Lumber companies moving into new regions or needing to modernize existing plant capabilities have worked with HGA to develop facilities with sophisticated handling systems. HGA has assisted clients in multiple areas including efficiency studies, design services, construction management, and process handling technology.



We have served as staff engineers, maintenance technicians, maintenance managers, and plant managers for our wood industry clients. HGA has also assisted softwood dimensional lumber, hardwood lumber, hardwood flooring, and hardwood molding clients with plant engineering that maximizes efficiency and minimizes costs.

---

### **Engineered Wood Products Technologies**

The HGA staff has a broad range of expertise in the emerging high-speed manufacturing technologies used to improve engineered wood products (EWP) production. Our multi-discipline technical experts have implemented new technologies for laminated veneer lumber (LVL), I-joists manufacturing, laminated strand lumber (LSL) and laminated beams. We routinely undertake projects that involve upgrades in design and processes. HGA offers project engineering services, project management, engineering, detailed design, and construction management for panel and EWP plants to make manufacturing processes more efficient.

---

### **Oriented Strand Board Manufacturing**

HGA is an industry leader in the engineering, planning, and the manufacturing process for oriented strand board (OSB). HGA undertakes OSB projects for plant operators, managing and streamlining processes with tailored, emerging technology. Our staff has a broad range of expertise in plant design, maintenance, and operations to facilitate efficient plant setup and upgrades/modifications to existing facilities. HGA provides the expertise or processes to improve performance and increase efficiency by integrating all these services, including project engineering services, project management, engineering, detailed design, and construction management.

---

### **Non-Structural Panel Facilities**

HGA has a background in the non-structural panels industry including particleboard, MDF and specialty hardboard fiber products. Our staff can help maximize your plant efficiency with equipment layouts, process development, plant redesign, and equipment modification. Our experienced civil, electrical controls, process, and mechanical engineers offer effective plant engineering for maximum efficiency. HGA also offers experienced project engineers, project managers, and construction managers.



---

### Plywood

The HGA staff includes numerous personnel with many years of experience in the plywood products industry. We are intimately knowledgeable of the plywood process from A to Z. Our people have served as staff engineers, maintenance technicians, maintenance managers and plant managers in the industry.

---

### General Wood Products

There are many facets of engineering applications that are common to the various segments that make up the wood products business. HGA has a wide range of expertise in many of these facets. Also, HGA's vast experience in other industries often leads to solutions to wood products-related problems.

The following is a representative list of services provided by HGA to our sawmill and timber industry clients.

Sawmill and site services:

- Preliminary engineering and feasibility studies
- Sawmill design services
- Sawmill site evaluation
- Plant site development
- Ventilation system design

- Woodyard system design
- Construction support
- Budgeting and cost estimating
- Environmental testing and monitoring
- Log yard road design
- Site survey
- Civil and site work
- Building structures and foundations

Mechanical and process engineering:

- Process flow diagrams
- Production and process studies
- Plant process analysis
- Facility layout
- Portal crane system
- Material handling and storage systems

Finishing line and product system design:

- Production equipment design
- Boiler and steam-related projects
- Wood fuel processing systems



#### Electrical:

- Electrical power system studies
- Plant electrical design
- Plant utility infrastructure

#### Process controls, automation, and instrumentation:

- Forming line controls
- Plant controls integration
- Finishing line and product handling system upgrades
- Log handling
- Blending area control systems
- Pneumatic system design
- Dryer control systems
- Pneumatic conveying systems
- Wood waste processing systems
- Heat energy system controls and projects
- Finishing and specialty line projects
- PLC and HMI control systems design

Our HGA experts have helped industrial wood-timber clients improve the efficiency of their operations through facility design. With extensive experience in sawmill plant modernization, our approach has helped use space more effectively, reduce costs, enhance safety and streamline production processes. With years of experience, we engineer design spaces that maximize productivity, produce high-quality products, and ensure successful plant operations that positively affect your bottom line.

For more information on HGA's wood products services, please go to [www.hga-llc.com](http://www.hga-llc.com).

## OUR TRACK RECORD:

### Hardwood Sawmill Plywood Client

Olla, Louisiana

HGA was selected to provide on-site construction management to rebuild the sawmill after a fire destroyed the primary breakdown section of the mill. The fire also destroyed the hydraulic carriage drive, filing room equipment, and conveyors. The initial objective of this operation was to successfully design and convert the hydraulic carriage drive to an electric drive. While the mill was down, the residual system also received an upgrade. The mill operator also recognized the need to address the chipper that had a history of plugging and was the bottleneck of the mill. HGA assisted with the re-design and relocation of the chipper and the residual conveyors for more plant efficiency. The new electric carriage drive and the upgrade to the residual system improved production considerably. The operator's objective was achieved, production is up, operating costs are reduced, and the new electric drive is more efficient. Also, the mill's electric transformers were operating at maximum load before the fire, but after the upgrades, the transformers saw a net decrease in demand.



### LaSalle: New Sawmill

Urania, Louisiana

The operator recognized the need for construction oversight, efficiency enhancement, and project planning while achieving their ambitious construction timeline. The general contractor was responsible for about 75% of the work on-site, including placing the sawmill equipment, foundations, and the construction of the buildings. The balance of the work was the responsibility of the owner. HGA was selected as the owner's representative to provide inspection of work completed by the general contractor and ensure

compliance with the contract. HGA assigned an on-site construction manager that was directly responsible for planning and coordinating all work and contractors not employed by the general contractor. HGA's responsibility included all roads, paving, utilities (process water, potable water, sewer, gas, and electricity), underground fire system, office building, and railroad track. HGA's planning, coordination, and integration of multiple services and providers were executed flawlessly. The client's objectives were achieved, and the mill began producing on schedule as planned.



### Norbord: Heat Energy System Installation

Jefferson, Texas

HGA was contracted by Norbord to provide detailed engineering for the installation of a new heat energy system at their Jefferson, Texas oriented strand board mill. This project was a strategic effort to better utilize biomass fuel and increase overall capital gains by reducing the mill's dependence on natural gas. The project included the complete replacement of an existing natural gas and wood waste-fired heat energy system that supplied heat to two existing OSB flake dryers and thermal oil to the press. HGA was responsible for the overall project plant layout and coordination. HGA coordinated designing foundations, electrical grounding, structural steel equipment supports, ductwork, new fuel and flake conveyors, and an MCC building. To minimize production downtime during construction, HGA also designed the layout around existing equipment and met the challenge of routing ductwork at elevations of 60 feet or higher. Through thorough analysis, project execution, and engineering designs, HGA reduced the mill's gas consumption by approximately 70 percent and reduced the company's global natural gas consumption by nearly 25 percent.





### Walsh Timber Company: Kisatchie Treating Plant

Noble, Louisiana

Walsh Timber Company wanted to construct a state-of-the-art greenfield pole treating facility using CCA as the chemical. The project included a biomass boiler, kilns, log handling equipment, biomass conveying equipment, pole peeling equipment, treating vessels, and associated buildings. They commissioned HGA as owner's representative for this project in its entirety. The company had no employees when this project began. HGA represented the owner in all items of the project including:

- Performing the feasibility study, including pro forma
- Site selection, design, and preparation (we obtained the 911 address)
- All permitting, including air, water, driveway, SWPPP (construction and permanent), DHH (potable water and sewer), etc.
- Assisting in obtaining government incentives and loans for the owner
- Selection of utility companies
- Design of plant layout to facilitate storage, traffic flow, economy, and safety
- Biomass conveyor design, equipment layouts, and general arrangements



- Bid package preparation, evaluation, etc. and purchasing of all major equipment
- Design of roads, paving, and all foundations including design of environmentally correct foundations and the containment facility for the CCA process (foundations were complicated in that they must be built with and could not penetrate a special membrane liner complete with monitoring wells; the foundation was designed for a treating cylinder weighing more than a million pounds, a tank farm, and a building over it; additionally, no stakes or forms could penetrate the liner)
- Building design for production buildings, offices, boiler, etc.
- Fire marshal package and submittal
- Electrical power and control design
- Construction oversight



### **Boise: Composer Addition**

Oakdale, LA

To increase output, Boise wanted to set up production of LVL at their Oakdale facility by adding the world's largest veneer composer (at the time). The project required demolition of the existing equipment and buildings and the installation of new equipment and buildings. The client chose to use HGA. HGA was responsible for electrical, mechanical, civil, and structural engineering designs for the entire project. These included building design, PLC programming, and pneumatic system design. HGA executed the demolition, site work, and environmental coordination, and was responsible for construction oversight.



### **Trus Joist/Weyerhaeuser: LVL & I-Joist Plant**

Evergreen, AL

Trus Joist requested the design and construction of a greenfield multi-phased facility for engineered wood. They awarded HGA a contract to provide electrical, mechanical, civil, and structural engineering; building design; PLC programming; pneumatic system design; environmental permitting oversight; stormwater design; and construction oversight.

HGA coordinated all the engineering design for the project except for a small amount of proprietary engineering identified by the owner. HGA led Phase 1 which included the installation of two presses and a complete I-line. HGA also coordinated Phase 2, which was the addition of two more presses and the production line designed to produce billets and I-joists up to 80 feet long. Also, several patents were awarded for the material handling equipment design. HGA and Trus Joist are joint patent holders.



### **Trus Joist/Weyerhaeuser: Timberstrand Plant**

Kenora, Ontario, Canada

Trus Joist, now a division of Weyerhaeuser, wanted to build a greenfield Timberstrand plant in Northwest Ontario. Requiring engineering and services critical to such an operation, the operator chose HGA to coordinate the engineering effort for the entire project. A total of five different consulting firms were involved in the project. HGA planned the engineering management and coordinated all the environmental permitting the project required: roughly 60 permits from 15 different agencies. The HGA team provided a seamless integration of design, development, procurement, and project monitoring. This facilitated the oversight of building ventilation and heating system, all pneumatic systems, and design of the wood processing system downstream of the core process. HGA also coordinated \$10 million in utility services for the plant.



### Southern Hardwood Sawmill Client

Several upgrades were installed at a hardwood sawmill including a lumber dip tank, a chip bin with new conveyors and a new head rig. HGA provided engineering, project management and construction management for all three projects. Engineering included conceptual design activities through detailed engineering for foundations, building, structural steel modifications, electrical and instrumentation applications, and equipment general arrangement plans. Our project management team established project scope, vendor equipment evaluation, as well as total installation cost estimates. Construction management began with pre-outage installations and modifications of foundations, structural steel, and electrical equipment, wiring, and conduit. On-site support continued through startup and commissioning of the new equipment.

### Southern Plywood Client

The SYP plywood client needed to replace their existing hot press and dry veneer grading systems. The hot press project required significant modification of the building around the existing press area to provide adequate clearance for the new press equipment. All the existing equipment was replaced from the prepress through the unloader and the press capacity was increased from 36 to 42 openings. Foundations for building columns and new building steel were designed to allow for installation during scheduled downtime or operation of the existing equipment. Detailed engineering of foundations, building modifications, access platforms, overhead pipe racks, steam, condensate, plant air, and water piping, and a new electrical service from the PDC to the motors was provided. Installation of two dry veneer grading systems was completed in a staged manner to allow one line to be commissioned at a time. HGA provided engineering services for equipment layout, conveyor design, and electrical design to power new conveyors and convert existing conveyors to VFDs. Project management and construction management from prework through commissioning was also included.

**HGA**

603 Reynolds Drive

Ruston, Louisiana 71270

Phone: 866. 255. 6825

[information@hga-llc.com](mailto:information@hga-llc.com)

[www.hga-llc.com](http://www.hga-llc.com)



Ruston  
Baton Rouge  
New Orleans  
Lake Charles  
Shreveport  
Houston  
Midland  
Fort Worth  
Birmingham  
El Dorado  
New York