

**EVAN M. ORMSBY, P.E.**

## **EDUCATION**

Louisiana State University, Baton Rouge, LA - Bachelor of Science Mechanical Engineering

## **REGISTRATION**

Professional Engineer States of Georgia and Alabama  
American Society of Mechanical Engineers – Associate Member  
American Society of Civil Engineers - Associate Member  
National Fire Protection Association - Member

## **CAREER HISTORY**

**Independent Contractor/Consultant** - Provides mechanical engineering services related to design and manufacturing of plant machinery and equipment as well as forensic investigations associated with the failure or safety aspects of plant machinery and equipment.

**Jervis B. Webb Company of Georgia**, Marietta, GA - Senior Project/Design Engineer

- Design original equipment to enable manufacturing of various products including assembly of automotive and industrial vehicles.
- Design handling equipment to convey diverse materials including phosphate, iron carbonate, cement, shredded batteries, baggage, salt, and food ingredients.
- Ascertain and execute all engineering functions needed to fulfill contracts and guarantee performance.
- Generate system layouts, general assembly drawings, fabrication drawings, sequences of operation, and cycle time studies.
- Supervise detail of custom machinery; review shop construction thru final assembly and development of control logic.
- Ensure proper mating of special equipment with vendor components and customer products.
- Work closely with clients of various nationalities and subcontractors to determine and verify project specifications.
- Prepare time, labor, and cost estimates for project quotation and/or work within established budgets.
- Provide problem solving analysis for machine systems and field start-up assistance.
- Create computer drawings with Autodesk AutoCAD 2000 and SolidWorks 2003 software.
- Perform structural analysis with Research Engineers STAAD/Pro software and principles within AISC Manual of Steel Construction, LRFD and ASD.
- Comply with ANSI standards, OSHA requirements, and building codes.

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## **Davidson-Kennedy Co., Atlanta, GA - Project/Design Engineer**

- Design and rebuild heavy equipment to manipulate continuous rail for railroad maintenance.
- Design handling equipment to convey bulk materials of crushed granite, wood chips, and coal.
- Design, detail, and construct hydraulic and pneumatic machinery with electrical control circuits.
- Provide electrical/mechanical trouble-shooting and field installation assistance.
- Generate computer drawings with Autodesk AutoCAD software.

## **Plant Mechanical Services Inc., Harahan, LA - Technician/Project Coordinator**

- Inspect and repair overhead cranes and hoists.
- Estimate and execute major mechanical/electrical repair projects.
- Work at job sites including paper mills, refineries, and power plants.

## **PROJECT PROFILE**

### **Unit Handling Equipment Highlights:**

- **JCB Inc.** – Flat top conveyor system to assemble nine various models of backhoe loaders. Served as lead engineer supervising a 5-man team which designed and detailed special equipment for installation within compressed 10-week timetable. An automatic off-load solution was developed that relied on synchronized pulling of product forward onto its own wheels as the conveyor descended below floor level. Also supervised control logic development and generated product trajectory studies for proper system function and placement of sensors. Worked directly with British client to approve final specifications and performance parameters.
- **Suzuki Mfg. of America Corp.** – Flat top conveyor to assemble four models of ATV vehicles. Designed and detailed a system which included a unique see-saw solution to unload finished vehicles. Worked closely with Japanese clients to ensure complete understanding of and agreement on equipment operation sequences and production rates. Supervised electrical control provisions and field installation of equipment.
- **Pepsi Co** – Overhead trolley conveyor system to transport dry beverage ingredients to five different packaging machines. Generated system layout, general assembly drawings, and cycle time studies to ensure continuous, ample, just-in-time supply of ingredients at various demand rates. Developed control logic to automatically prompt worker and indicate which product requires loading into the system.
- **Deere-Hitachi Construction Equipment** – Overhead trolley conveyor system to paint large earth moving equipment components. Performed system design, detail, and analysis to accommodate various sized and shaped steel weldments with weights up to 10 tons. Also created a special lift with a swing-arm to avoid interference with the house crane

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during the load and unload of the carrier. Supervised electrical control provisions and field installation of equipment. Delivered with a 5-year service warranty, the lifting apparatus is currently in its 7<sup>th</sup> year of trouble-free operations.

- **Nissan Motor Mfg. Corp. USA** – Overhead trolley conveyor system for movement of automobile bodies to assembly lines. Changed carrier to a gull wing (clamshell) style for holding two current auto body models and the introduction of a third. Engineered carrier to customer specifications for lightest weight possible. Made reconnaissance site visits to record location of plant structures and determine where the handling equipment should interface with products. Oversaw modifications to existing system and construction of new carriers. Supervised revision of electrical control sequences and field installations to complete project during two-week plant shutdown.
- **Kellogg Brown and Root** – Overhead trolley conveyor system to transfer baskets of meat into multiple tenderizing machines. Designed system in four-unit modules with capability for feeding up to 12 stations, allowing for future expansion. Also created lowering device to place product in processing unit, developed cycle time studies, and recommended station placements within overall plant layout.
- **Lockheed Martin Corp.** – Overhead trolley conveyor system of JASSM missile facility. Designed custom pneumatic-actuated, rack-and-pinion turntable to rotate missile smoothly in paint booth. This device operated so well in its five years of service, it is currently being relocated and replicated for a system expansion.
- **Lockwood Greene / Caterpillar** – Floor-mounted tow-line conveyor for painting large generator sets. Designed and analyzed a heavy equipment dolly to support an 18-ton maximum product weight. Devised a revolutionary machine concept for asymmetrically placed casters to reduce the side loads created when traveling around the turns of the oval conveyor path.
- **Freightliner Custom Chassis Corp.** – Overhead trolley conveyor system for final assembly of commercial vans. Created transfer system to shuttle vehicle bodies into the loading area and designed lifts to load and unload carriers. Examined sample vehicle to determine best contact points. All interfaces between product, handling equipment, and carrier were successful on first attempts.

## **Bulk Material Handling Equipment Highlights:**

- **GNB Battery Recycling Center** – Conveyor and storage system for reclaimed lead from recycled batteries. Designed and analyzed three large bunkers to accommodate high volume and extreme weight of this toxic material. Oversaw construction of bunkers, installation of traveling reclaimers, and development of control specifications.

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- **DuPont Titanium Dioxide Plant** – Conveyor system for removal of iron carbonate pellet byproduct. Designed transfer system and radial stacker to store product in circular pile. Generated general assembly drawings and analyzed steel structures.
- **Lafarge / Bay Shipbuilding** – Cement barge conveying system. Designed cargo hold conveyor to transfer cement ingredients from bottom of cargo hold to dock-side storage silos. Also designed bucket elevator and collaborated with shipbuilder to integrate equipment.
- **Monsanto** – Deep-pan apron conveyor for phosphate mine. Designed equipment and analyzed structure to withstand heavy snow loads and heat released from phosphate when exposed to air.
- **DuPont Titanium Dioxide Plant** - Belt conveyor for food-grade salt within gallery enclosure on top of pre-stressed concrete tee's. Design of conveyor transfer tower and gallery structures.
- **Florida Rock Quarry** - Vibration screen and conveyor transfer tower for separation of crushed granite from quarry. General assembly and detail drawings for tower structure under direction of contracted civil engineer. Detail chute-work for transitions and belt conveyor truss and terminal sections.
- **Great Southern Paper Mill** - Material handling belt conveyor system for handling bark chips. Detail conveyor structure, guards, handrails, and stairways in compliance with OSHA regulations.
- **GNB Battery Recycling Center** - Hydraulic ram feed system for lead reverb furnace. Develop process control logic and design hydraulic system.

## Rail Handling Equipment Highlights:

- **Union Pacific RR** – Track maintenance equipment for transportation and unloading of rail. Developed special rail car with diesel-powered hydraulic system and elevated control cab which allowed better visibility of process and improved handling of continuous rail. Supervised revamp of two existing rail transportation trains having 16 cars with storage racks. After 12 years, this unloading car continues to operate successfully.
- **Southern Pacific, CSX, Union Pacific, & Burlington Northern RR's** – Track maintenance equipment for replacement of rail. Performed engineering to renovate and/or modify special railroad cars and rail storage trains. Rail pick-up units utilize crane wheels and diesel-powered hydraulic systems up to 100 gpm to remove lengths of heavy rail in quarter-mile segments. Oversaw replacement of machine components and final performance approval.

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- **Norfolk-Southern RR** – Scale test car to calibrate railroad yard weigh scales. Designed a self-propelled railroad car with friction drive and the ability to concentrate its entire 100 ton weight on the rail head by extending four built-in hydraulic jacks. Also performed hydraulic system installation.
- **Lewis Rail Co.** – Equipment for straightening rail at railroad welding facility. Designed and analyzed new machine with 120-ton upper and lower vertical thrust and 40-ton horizontal thrust capabilities. Reviewed installation of electrical pushbutton controls and hydraulic components.
- **Motor Coils Mfg. Co.** – Railroad locomotive traction motor dismantling machine. Re-designed machine to hold and manipulate several makes of the 3-ton electric motor during manual disassembly. Supervised final assembly and installation of electrical pushbutton controls and hydraulic components.