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The Port of New Orleans brownfield project is being rapidly developed in New Orleans, with Engineering, Procurement and Construction Management for this project executed by NELSON in our New Orleans and Houston offices. The project is located on the Gulf Intracoastal Waterway (GIWW), approximately 2 miles east of the Inner Harbor Navigation Canal (IHNC), on a site which has been a part of the Port of New Orleans for more than 50 years.

This stretch of the GIWW was first developed in the 1960’s as the New Orleans Public Bulk Terminal and was centered on Elaine Street to provide access from Almonaster Blvd. to the waterway. Following changes in bulk commodity transportation
In 2004 and 2005, this deepwater-fronting property was converted by C.G. Railway and Port of New Orleans into a rail ferry terminal for ocean-going ferries transporting a large variety of commodities between New Orleans and Mexico. The shipping route used the Mississippi River Gulf Outlet (MRGO) to connect the port facility to the Gulf of Mexico. After Hurricane Katrina in August of 2005, the MRGO was closed by the U.S. Army Corps of Engineers to protect wetlands east of New Orleans. Subsequently, the rail ferry operation shifted to Mobile, Alabama as its northern terminus. As a result, the Elaine Street marine facilities became dormant except for unsanctioned mooring of barge tows waiting to use the HNC Lock.

Bulk Resources, Inc. has had ongoing leases with the Port of New Orleans and the New Orleans Public Belt Railroad (NOPBRR) for landside facilities west of Elaine St. in New Orleans East since 2007. At this operation, Bulk Resources cleans, services and prepares rail tank cars and highway tank trucks for their next cargo. Based on the success of that operation, Bulk Resources/Louisiana, LLC and Murex, LLC of Addison, Texas partnered to build Gulf Gateway Terminal, LLC for transshipment of crude oil from railcars to barges on the GIWW. The terminal will be operated by SGS Petroleum Services Corporation of Baton Rouge, Louisiana. This focused, purpose-built facility will be able to receive bulk liquid products from six Class 1 railroads through switching services provided by NOPBRR.

This will allow producers to transport crude oil to New Orleans by rail for delivery via brown water (Mississippi River system) barges or blue water (ocean-going) barges to refineries with waterfront access. The Bulk Resources LA/LLC facility will be developed in phases. The first phase will facilitate daily transfer of 70,000 barrels of light, sweet crude oil from unit trains arriving with 120 cars from origins as far away as North Dakota. Operational efficiency is the watchword for the entire project, including site layout, equipment selection, operations roster, and logistics planning. Based on experience from other rail-based operations in their portfolios, Bulk Resources’ managers/owners and NELSON’s engineers are steering the project to a fast-track completion.

Modification of the marine facilities remaining from the rail ferry operation received the first attention as NELSON mobilized to meet the needs of the project. Permits with multiple agencies sharing jurisdiction for the waterway were prepared, circulated and

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and expedited to integrate feedback from parties responding during the permitting process. Some of the existing structures were retained for the new facility. More structures are being added as necessary to configure the final facility for its new function to berth and moor the anticipated range of vessels. Designs for these additional facilities focused heavily on economical structures which could be built and installed quickly. Site and water level conditions at the GIWW are favorable for certain designs that would not be practical at locations on the Mississippi River, where annual stage variations of 15 to 35 feet are common.

Landside modifications to the rail infrastructure proceeded within weeks of the start of the marine facilities. Although less involved than permitting for marine facilities, a host of landside permit conditions and coordination was needed early in the design cycle. The fact that much of the needed, parallel, high-capacity switchyard trackage had been in use in rail operations for many decades made some of the permitting issues easy. The existence of known and unknown subsurface utilities and infrastructure, however, became a detail requiring serious research and data gathering from Port archives, public utilities, State of Louisiana records, and NELSON’s archives.

Phase 1 trackage will consist of four parallel tracks approximately 2,000 feet long to simultaneously unload 120 tank cars.

As the site has been used for more than 50 years, it is known to be stable and quite flat. Existing drainage will be maintained and enhanced, and road-ways and parking areas will be defined as necessary for efficient plant operations. Area lighting and fire protection will be installed as required for safe operation and compliance with codes. Fire protection in the railcar unloading area will consist of hand-held extinguishers, hydrants, hoses, and fire monitors, as well as alarm and detection systems.

The heart of the controls and operations will be located at the Master Command & Control Station (MCCS), a three-story building near the middle of the new facilities. The Control Room will be located in the windowed third floor, providing direct visual contact with all operations areas as well as closed-circuit TV and instrumentation monitoring and controls. The second
story of the building will be used for crew facilities: lunchroom, locker rooms, and restrooms. The ground floor will be used as an outdoor covered break area.

A “fast-track” design and construction approach is being used in order to begin operations in May 2013. In September, the first construction contract was awarded to Bob Brothers for off-site fabrication of marine facilities. Subsequently, multiple purchase orders for equipment and construction contracts for off-site fabrication have been awarded in order to expedite the project. On-site construction of site preparation, demolition, marine facilities, the MCCS building, the pump pit and gantry were begun in December by Sunland Construction.

In addition to vapor collection and treatment, environmental protection will be provided through collection of rain runoff from the marine loading platform and from the pump pit on land. The runoff will be pumped to a new coalescing-type oil-water separator. Additionally, environmental protection will be provided by drip/spill collection pans at each tank car and hose connection point. The operators will be trained and monitored to prevent drips or spills.

The electrical system will receive 480v service from Entergy at a new motor control center (MCC), from which all equipment will be powered. The 1200A MCC will be housed in a pre-manufactured electrical building, along with seven variable frequency drives and associated line/load reactors. The motor control center feeds three 250HP crude oil transfer pumps, two 30HP marine cranes, redundant air and vapor blowers for the vapor recovery unit and flare, and a 150A feeder to the MCCS Building. The motor control center also feeds a manual transfer switch for an 80KW diesel generator which will provide back-up power to the pump pit sump pumps, control power to the MCCS, and the emergency lighting on the site.

The facility is operated through the control system in the centrally-located Master Command and Control Station, built by Favalora Constructors, Inc., that communicates with multiple control panels strategically located throughout the site. Human Machine Interfaces (HMI’s) are installed at the majority of the control panel locations for interactive control capability. The system is PLC-based and is designed in a ring topography to provide redundant network communications capability. Fiber optic Ethernet cabling is used between the input/output devices to provide robust data protection.

NELSON is also providing in-depth construction management services. In addition to the usual construction-phase engineering services (shop drawing review, response to contractors’ questions, etc.), NELSON assigned one of our senior construction managers to begin work during early phases of the design to assist with decisions about constructability, economy, schedule, budget and measuring project progress. This work is continuing throughout the construction phase, including extensive on-site presence for coordination and communication with contractors and with NELSON’s engineering and project management staff.

Upon the near-term completion of Phase 1 of the project, subsequent phases will proceed to add capacity for getting domestic crude oil to market. NELSON is proud to be a part of this exciting project and to work an extended design/procurement/construction management schedule to realize its early completion.

The Port of New Orleans

The Port of New Orleans is at the center of the world’s busiest port complex – Louisiana’s Lower Mississippi River. Its proximity to the American Midwest via a 14,500-mile inland waterway system, six Class One railroads and the interstate highway system makes New Orleans the port of choice for the movement of cargoes such as petroleum products, steel, rubber, coffee, containers and manufactured goods.

The Mission of the Port of New Orleans is to maximize the creation of jobs for Louisiana citizens using maritime, cruise and development activities. The Port’s facilities include 22 million square feet of cargo handling area and more than 6 million square feet of covered storage area. The Port’s facilities accommodate an average of 2,000 vessel calls each year.

(Excerpted from Port of New Orleans’ website)

NELSON designed the public bulk terminal, bulk storage at the uptown silo, and many recent projects on inspections, repairs, and container facilities.
logistics and the addition of more than a dozen bulk commodity storage and transshipment facilities on the Lower Mississippi River, the Public Bulk Terminal was decommissioned in the 1990’s. In 2004 and 2005, this deepwater-fronting property was converted by C.G. Railway and Port of New Orleans into a rail ferry terminal for ocean-going ferries transporting a large variety of commodities between New Orleans and Mexico. The shipping route used the Mississippi River Gulf Outlet (MRGO) to connect the port facility to the Gulf of Mexico. After Hurricane Katrina in August of 2005, the MRGO was closed by the U.S. Army Corps of Engineers to protect wetlands east of New Orleans. Subsequently, the rail ferry operation shifted to Mobile, Alabama as its northern terminus. As a result, the Elaine Street marine facilities became dormant except for unsanctioned mooring of barge tows waiting to use the HNC Lock. Bulk Resources, Inc. has had ongoing leases with the Port of New Orleans and the New Orleans Public Belt Railroad (NOPBRR) for landside facilities west of Elaine St. in New Orleans East since 2007. At this operation, Bulk Services cleans, services and prepares tank cars and highway tank trucks for their next cargo. Based on the success of that operation, Bulk Resources/Louisiana, LLC and Murex, LLC of Addison, Texas partnered to build Gulf Gateway Terminal, LLC for transshipment of crude oil from railcars to barges on the GIWW. The terminal will be operated by SGS Petroleum Services Corporation of Baton Rouge, Louisiana. This focused, purpose-built facility will be able to receive bulk liquid products from six Class 1 railroads through switching services provided by NOPBRR. This will allow producers to transport crude oil to New Orleans by rail for delivery via brown water (Mississippi River system) or blue water (ocean-going) barges to refineries with waterfront access. The Bulk Resources LA/LLC facility will be developed in phases. The first phase will facilitate daily transfer of 70,000 barrels of light, sweet crude oil from unit trains arriving with 120 cars from origins as far away as North Dakota. Operational efficiency is the watchword for the entire project, including site layout, equipment selection, operations roster, and logistics planning. Based on experience from other rail-based operations in their portfolio, Bulk Resources’ managers/owners and NELSON’s engineers are steering the project to a fast-track completion. Modification of the marine facilities remaining from the rail ferry operation received the first attention as NELSON mobilized to meet the needs of the project. Permits with multiple agencies sharing jurisdiction for the waterway were prepared, circulated
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