

Location: Boulder City, Nevada, US

Owner: Federal Highway Administration

Project Value: \$ 114,000,000

Client: Obayashi Corporation

Dates: August 2007 – December 2010



The Hoover Dam Bypass Bridge carries traffic over the Colorado River approximately ¼ mile downstream of the Hoover Dam, near Boulder City, Nevada. The project included construction of the longest and highest concrete arch built in North America spanning 1100 feet at a height of over 900 feet above the river. Most notably the bridge was constructed using:

- Cable supported, cast in place methods.
- Precast Segmental Piers, Vertically Post Tensioned
- Structural Steel Tub Girders
- Twin 2500 ft long 50 Ton Cableways.

The project was designed by T.Y.Lin International, Managed by Parson Brinkerhoff and executed by a joint venture including Obayashi Corporation and P.S.Mitsubishi Construction Company.

Hirschmugl, Heine & Associates, Inc. provided direct assistance to the Project Management team developing technical work plans, CPM scheduling, and general coordination of effort for the multiple design and construction engineering firms that were required to complete this magnificent project.

The Hoover Dam Bypass opened to traffic in October 2010.

Hirschmugl, Heine & Associates, Inc.

CONSTRUCTION MANAGEMENT



Location: Minneapolis, MN

Owner: Minnesota Department of Transportation

Project Value: \$ 235,000,000

Client: Flatiron-Manson, JV

Dates: January 2008–February 2009



The St. Anthony Falls Bridge is a 1,216-foot-long, 10-lane concrete bridge with a 504-foot-long precast segmental main span. The bridge is supported by three land-based piers (four columns at each pier) standing 70 feet tall. Segments were cast on the south bank of the river on an existing closed section of I-35. There are 120 precast segments ranging in weight from 170 to 210 tons each. The bridge was completed and opened to traffic three months ahead of schedule.

Hirschmugl, Heine & Associates, Inc was contracted by the Design – Build Team to maintain and update the Project CPM Schedule using Primavera P6 software. The schedule was fully cost and resource loaded and served as the basis for payment on this fast-tracked Contract. Schedule updates based upon field performance were completed on a bi-monthly basis whereupon HHA conferred directly with the Owner to determine final pay estimate value. HHA developed and produced the Contract required narrative and reports for submission.

The Project is complete and open to traffic.

Location: New Orleans, LA

Owner: US Army Corp of Engineers

Project Value: \$ 60,000,000

Client: Manson Construction
Company

Dates: February 2008 - Present



The Gulf Inter Coastal Waterway Project consists of a bypass barge gate and a flood control sector gate at the GIWW, a vertical lift gate at Bayou Bienvenue, a braced concrete barrier wall across the MRGO and the Golden Triangle Marsh, and floodwalls on the north and south ends that tie into the risk reduction system in Orleans Parish and St. Bernard Parish, respectively. In April 2008, the U.S. Army Corps of Engineers awarded the construction contract to The Shaw Group, making this the largest design-build civil works project in Corps history. Manson, under contract to Shaw, constructed the Bypass Barge Gate and the Bayou Bienvenue Gate structures.

Hirschmugl, Heine & Associates, Inc was contracted by Manson to develop and maintain the construction schedule within US Army Corp of Engineer standards. P6 – unit price contract cost loaded. Weekly updates as required by contract. Monthly updates with complete narrative. Work with client field management to work through sequencing and durations. Problem identification and mitigation support. Time impact analysis.

The Project is scheduled for completion during 2011.

Location: Northern Virginia

Owner: Virginia Department of Transportation

Project Value: \$ 1.3 Billion

Client: Capital Beltway Express, LLC

Dates: October 2008 - Present



The I-495 Capital Beltway HOT High Occupancy Toll Lane / Lane Public–Private Partnership (PPP) transportation project involves design and construction of four new lanes on the Capital Beltway (Interstate 495) from the Springfield Interchange to just north of the Dulles Toll Road – fourteen miles. The project includes replacement of more than \$260 millions of aging infrastructure, including more than 50 bridges and overpasses along with upgrades to 12 key interchanges. The Northern Virginia Section of the DC Beltway is one of the most heavily travelled roadways in the country.

Hirschmugl, Heine & Associates, Inc has been retained by the concessionaire, Capital Beltway Express, LLC to perform review and analysis of the performance of the Design – Builder for this state of the art reconstruction project. HHA provides monthly services to their client which include

- Analysis and Evaluation of the Design Builders Monthly CPM , (Primavera P6).
- Submittal of an executive level and detailed report,
- Time impact analysis, as required during the project.
- Independent review, recommendations and opinion to the client regarding the project schedule.

The Project is underway with an expected completion date of 2014.

Hirschmugl, Heine & Associates, Inc.

CONSTRUCTION ENGINEERING



Location: Washington DC Beltway

Owner: Maryland State Highway /FHWA

Project Value: \$ 190,000,000

Client: Potomac Constructors, LLC

- Edward Kraemer & Sons, Inc.
- The Trumbull Corporation
- American Bridge

Dates: March 2007 – May 2007



The Woodrow Wilson Bridge Project replaced a bridge over the Potomac River near Washington, DC. The Maryland Approach Project included replacing 6 active lanes of traffic spanning 3300 ft over the water, with a new structure 12 lanes wide. This project was performed while maintaining traffic for over 200,000 vehicle per day on the Washington DC Beltway/ I95 corridor. Regulatory agencies included the States of Maryland and Virginia, The District of Columbia, The National Park Service and Coast Guard.

Hirschmugl, Heine & Associates, Inc. provided the detailed demolition plan for the removal of the existing bridge and false-work drawings for scenic overlook platforms. Environmentally sensitive stream conditions, along with shallow tidal water required a top down demolition plan. Over 30 barge loads of recycled materials were removed and shipped to a newly established fish reef in the Chesapeake Bay. HHA performed the interim stability calculations along with detailed work plans. In addition, HHA performed the engineering for the false-work used to support the cantilevered pedestrian observation decks which provide the new viewing areas of the historic Alexandria waterfront along the length of the bridge.

The Project was completed in 2008.

Hirschmugl, Heine & Associates, Inc.

CONSTRUCTION ENGINEERING



Location: Myrtle Beach, South Carolina

Owner: South Carolina Department of Transportation

Project Value: \$ 70,000,000

Client: Cape Romain Contractors

Dates: July 2007 – December 2007



The North Myrtle Beach Connector, Phase III completed the roadway, bridge and infrastructure joining North Myrtle Beach's Main Street with Carolina Bay (Hwy 31). This is the main North South connector running along the popular Grand Strand Coast. The project included a new 4 lane bridge spanning the Intracoastal Waterway. The main spans were constructed using balanced precast beams, joined and post-tensioned on supporting false-work.

Work plans were required to allow for safe passage of commercial and recreational vessels throughout construction. The project was designed by Wilbur Smith Associates.

Hirschmugl, Heine & Associates, Inc. provided the detailed erection plans and false-work drawings along with the supporting calculations to safely execute the erection of the main spans. In addition, HHA assisted with the re-design of the steel diaphragm assemblies, increasing the efficiency of the crews during the erection procedure. Once the beams were set and positioned on the false-work, cast in place closures and final post tensioning were installed. The false-work was removed. HHA assisted with the design of supporting formwork, stiff-backs and detailed post tensioning calculations.

The Project was opened to traffic in September of 2009.

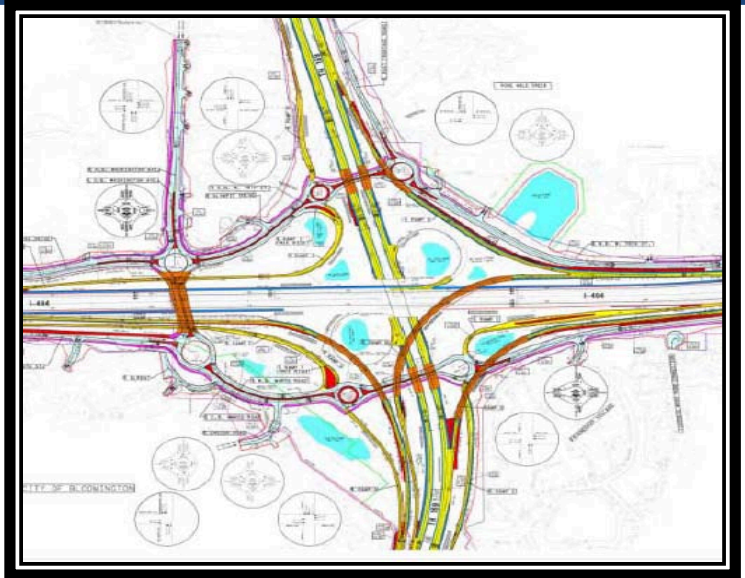
Location: Bloomington, MN

Owner: Minnesota Department of Transportation

Project Value: \$ 130,000,000

Client: Ames Construction Company

Dates: March 2007 – May 2007



The TH 169/I-494 Interchange Design-Build Project improves safety and mobility by converting the existing TH 169 Expressway to a Freeway at this heavily travel interchange. The work includes reconstruction of the existing interchange with six connections, removal of traffic signals, utility relocations, and construction of noise barriers. Construction will include 8 new bridge structures. Construction will be performed under live traffic conditions. MNDOT has awarded the work to be performed as a Design Build Project,

Hirschmugl, Heine & Associates, Inc was contracted by the Design – Build Team to develop the Technical Proposal CPM schedule. Conceptually developed with the Design-Build Manager, HHA prepared the Project CPM Schedule using Primavera P6 software. Key elements of the project include complex traffic phasing due to meet stakeholder commitments to the travelling public and associated utilities. The schedule utilizes specific schedule calendars developed to conform with the Contract work restraints and the local weather conditions.

The Project is underway with an expected completion date of 2012.

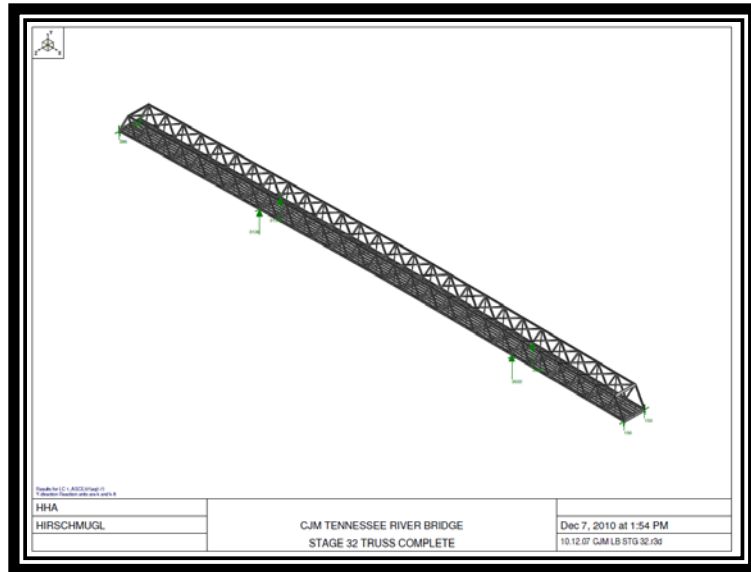
Location: Paducah, Kentucky, USA

Owner: Commonwealth of Kentucky

Project Value: \$ 66,000,000

Client: C. J. Mahan Construction

Dates: November 2010-current



The Ledbetter Bridge will replace a 1931 era two lane bridge with a modern 4 lane structure spanning the Tennessee River near Paducah Kentucky. A new 700 ft main span will facilitate river navigation while improving the safety and access across the river for decades to come.

- The Engineer of Record is URS,
- Truss Design by Entrans.
- Truss Fabrication by PDM

Hirschmugl, Heine & Associates, Inc. will provide Truss Erection Plans for the detailed assembly of over 15,000,000 LB of structural steel using balanced cantilever method of construction. This includes full stability checks during erection along with engineering of all temporary structures as required to safely execute the work.

The Project is scheduled to be constructed during 2011.

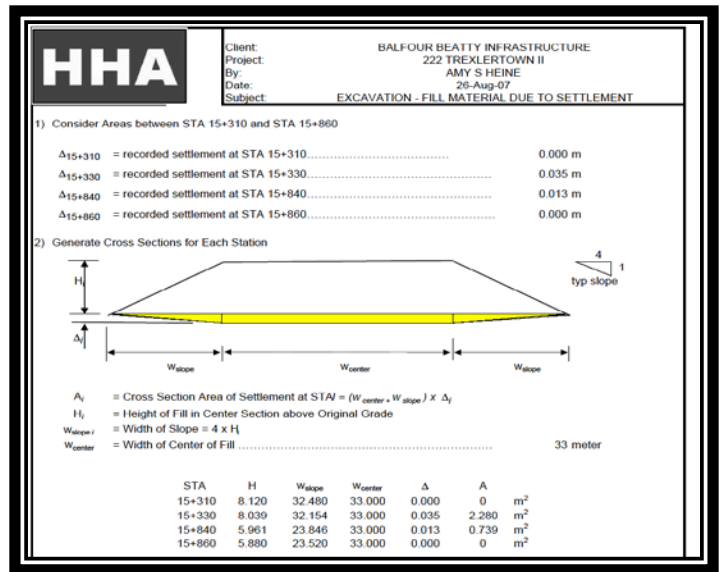
Location: Allentown, PA

Owner: Pennsylvania Department of Transportation

Project Value: \$ 55,000,000

Client:
Balfour Beatty Infrastructure, Inc

Dates: May 2007 – May 2009



The SR 222 Section 002 – Trexlertown project involved construction of a four lane, limited access arterial relocation including 2 interchanges, 3 signalized intersections on the mainline and side road construction with 5 signalized intersections. Additionally, the project required construction of 3 single span bridge structures, 4 box culverts, 2 sound barriers and retaining walls. The project was designed as a sequenced project requiring a significant off-site borrow effort.

Hirschmugl, Heine & Associates, Inc was contracted by the General Contractor to assist with the closeout of the Project. This included:

- Using Terra Model to develop a digital terrain model
- Verification of excavation and embankment quantities.
- Inventory and analyzed soil properties to develop appropriate shrink and swell of in situ materials to be applied on the project.
- Calculate Final Pay Quantities and present to Client and Owner.
- Closeout of subcontractors including finalization of quantities and added work.
- Produced final CPM updates and analyzed delays incurred on the project.

The project was completed during 2009.