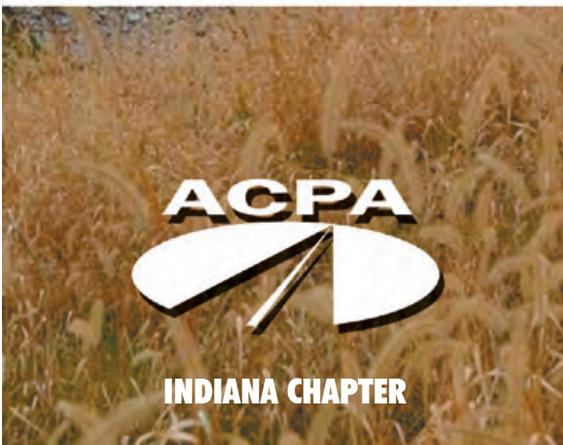


# Indiana Concrete Pavement Solutions

**Count on Concrete**  
PAVEMENT

Publication of the Indiana Chapter  
American Concrete Pavement Association • AWARDS 2013



## 2013 Excellence in Concrete Pavement Awards

## Richard Newell receives the Indiana ACPA Pillar Award

The Indiana Chapter of the American Concrete Pavement Association awarded the Pillar Award to **Richard M. Newell**. The award was established to recognize individuals who through their efforts and contributions have been “pillars” of the concrete paving industry. Newell is the first recipient of this award and exemplifies the dedication, commitment, leadership and constant pursuit of improvement of concrete pavement in the construction industry.

Newell served his country as a Navy Seabee. He started with the Indiana Department of Highways in 1958. He was a Concrete research technician at Central Materials and an area supervisor of materials for Greenfield District. In 1993 Newell became the quality control manager for Berns Construction Company and currently is a quality consultant to Milestone Contractors LP. During his career he has been involved with numerous department of transportation and industry committees that were responsible for development of QC/QA Specification for concrete pavement, Certified Aggregate Producer Program, rewriting of 500 Portland Cement Pavement section of INDOT Standard Specifications. Newell has also served on many advisory committees for INDOT/Purdue research projects and has helped train students working on research projects in proper lab and testing procedures. ●



*Richard M. Newell*



**Award Category: Industrial & Special Paving**

# INDOT Upgrades I-69 Rest Area with PCCP

The original northbound rest park on I-69 near Auburn, IN was built in 1966. It accommodated 10 trucks, 30 cars and the visitor facilities were in need of a significant upgrade. The entire rest area was closed and demolished in 2001 and left vacant until the new project was let in March 2011. The new design made more efficient use of the 20 acre site accommodating 80 trucks and 50 passenger vehicles, a new 4500 square foot handicap-accessible visitor center, as well as designated picnic grounds and a dog walking area.

Primco's new Gomaco 2600 Paver utilized the latest stringless horizontal and vertical control technology. They also modified additional paving equipment to utilize the stringless technology. GPS controlled equipment was utilized to place and trim subgrade and stone (#53's and #8's) This project required an "alternate lane" paving sequence. The storm drainage elevation changes that stretched across several adjacent lanes added to the complexity of the paving process – all easily accommodated with the stringless technology.



Pavement smoothness was checked with a 10-foot straight edge behind the paver with a 5-foot overlap. GSI units mounted on the back of the paver provided real-time smoothness data, allowing the crew to make adjustments on the go. The specified 14-inch pavement averaged 14.9-inches in depth and for the 11-inch pavement, an average of 11.3-inches was achieved. The seven-day flexural strength averaged 637 psi and entrained air registered 6.7 percent. The project was completed on schedule in November 2012. Primco placed 43,528 square yards of Portland Cement Concrete Pavement at Indiana newest revitalized rest park. ●

**Auburn Rest Area, I-69 (North Bound)**

**INDOT**

**Primco, Inc.**

**GAI Consultants, Inc.**

**Fleming Excavation Inc.**



**Award Category: Commercial & Military Service Airports**

## Gary Airport Improvements Drive Local Economy

The rehabilitation of the apron at Gary/Chicago International Airport is an incremental improvement that is part of a larger plan. This airport plays an important role toward the effort to revitalize the Northwest Indiana Economy. The airport authority, local leaders in conjunction with NGC Corp. have created a plan that will improve this asset and can be implemented as funding becomes available.



on a P-209 crushed limestone sub-base.

Walsh & Kelly Inc. secured the assignment and worked to get the 9,490 square yards of PCCP in place in the face of the northwest Indiana November weather. They achieved flexural strength

Rehabilitation of the apron began in 2011 with the removal of an old Hot Mix Asphalt apron. It was replaced with P-501 Portland Cement Concrete Pavement (PCCP) of varying depth: 14-inches, 12-inches and 8-inches



at 28 days of 1,030 psi and the entrained air registered 6 percent. NGC Corp. worked out a traffic management plan that allowed the Fixed Base Operator to navigate aircraft safely around the rehabilitation effort.

As the Gary Chicago International Airport

Authority strives for greater heights, the concrete paving industry stands ready provide durable solutions on the ground in Northwest Indiana. ●

**Apron Rehabilitation Gary/Chicago International Airport**  
**Gary/Chicago International Airport Authority**  
**Walsh & Kelley, Inc.**  
**NGC Corporation**

**Award Category: Industrial & Special Paving**

## Lafayette Recycler Innovates with RCC

The new Nanshan America Advanced Aluminum Technologies facility on the south side of Lafayette was a design-build project. Irving Materials, Inc. presented prime contractor Shiel Sexton with the option of using Roller Compacted Concrete (RCC) for site paving. RCC answered all the owner's requirements: durability, speed to construct and cost competitiveness.

E&B Paving Inc. was the successful bidder. The project required 20,135 square yards of 7-inch RCC and 26,875 square yards of 13.5-inch RCC, placed in a two-lift, "wet-on-wet" process. E&B's skilled placement of this material resulted in Shiel Sexton adding an additional 6,600 square yards of 8-inch and 13.5-inch RCC for the floor in one of the Nanshan America buildings.



The Nanshan America project contains two "firsts" in Indiana: the first two-lift installation using two high-density pavers and the first application of RCC as the floor of an industrial building.

Timing, consistency and compaction are the keys to success with RCC. The first pass can't sit too long before applying the second pass. The correct gradation of aggregates is critical to achieving density and proper moisture content is critical to achieving optimum hydration. The contractor's use of high-density pavers have made it possible to achieve RCC placement meeting specification while achieving an attractive, finished product. ●



**Nanshan America Advanced Aluminum Technologies Facilities**  
**Nanshan America**  
**E&B Paving, Inc.**  
**Shiel Sexton**

**Award Category: State Roads**

# Delphi to Lafayette: Safer on the Hoosier Heartland

The Hoosier Heartland also known as Indiana State Road 25 in This portion of the Hoosier Heartland Corridor, also known as Indiana State Road 25 in Tippecanoe and Carroll County, includes two segments linking Lafayette and Delphi, Indiana. Segment 1, Phase B was let first in May 2009 under the federal stimulus program. Segment 1, Phase A, was let almost a year later. Together, they total about 11 miles of rural four-lane highway on a new alignment with turf medians, a few at-grade intersections, 11 bridge structures spanning four creeks and two county roads.



The two contiguous projects were built over three seasons. Concrete was produced at E & B's portable central mix batch and delivered to the site in tri-axle dump trucks. Phase B included 174,290 square yards of 11.5-inch Portland Cement Concrete Pavement (PCCP) and Phase A resulted in 219,000 square yards of 10.5-inch PCCP. E&B achieved very good Quality Control results: 10.47-inches of average depth on the 10-inch pavement and 11.8-inches on the 11.5-inches PCCP. Flexural strength averaged 650 psi with entrained air measuring an average of 7.0 percent.

**Indiana State Road 25: Hoosier Heartland in Tippecanoe & Carroll Counties**

**INDOT  
E&B Paving, Inc.  
Butler, Fairman, & Seufert, Inc.**



Two interesting revisions were made to Segment A. A PCCP roundabout was added at the junction of Old State Road 25 and the new alignment. In addition, the old mainline PCCP was removed and replaced at the I-65 interchange and some additional ramp patching with a hot mix asphalt overlay on the I-65 ramps.

The groundbreaking for this corridor was in the fall of 2008 in Lafayette, Ind. The ceremonial ribbon was cut in Delphi on October 24, 2012; opening both sections. A caravan led by Governor Daniels riding in the Purdue "Boilermaker Special" transport led a lengthy parade of vintage vehicles to near Lafayette and back to Delphi. ●



**PCCP was used on all nine alternate bid contracts in September. Member firms for their dedication to excellence on the project.**

**Award Category: Divided Highways (Rural)**

## Milestone Moves I-69 Forward

Contract IR-33047, Section 3 of the I-69 corridor in southern Indiana was a design/build contract in Daviess County paved by Milestone Contractors, L.P. for the prime contractor, White Construction, Inc. The 6.1-mile segment begins just north of US 50 and the CSX rail line in Washington, Ind. traversing a very rural and generally flat terrain.

Milestone set its portable batch plant on the project site, one of four plants that were set up along the I-69 corridor for the busy 2011-2012 paving season. One of the challenges for this and other segments of I-69 was getting materials delivered due to high demand for trucks and the capacity of area stone producers. Milestone combined constant communication and aggressive materials management to keep the project moving forward, ultimately finishing the project on schedule.

Milestone utilized their stringless paving system and added Gomaco's new real-time smoothness indicator system, helping the project team to consistently achieve smoothness incentives. This segment encompassed 203,000 square yards of 11-inch PCCP. The Quality Control results show an average depth of 11.5-inches, flexural strength of 686 psi, entrained air at 6.7 percent and water/cement ratio averaged .421. ●

**I-69 Corridor, Section 3, Contracts 8 & 9 in Daviess County**  
**INDOT**  
**Milestone Contractors, L.P.**  
**Crossroad Engineers, P.C.**  
**White Construction, Inc.**



Sections 1, 2 & 3 of I-69. We're certainly proud of our this very significant project.

## E&B Successful on I-69 Sections 1 and 2

I-69, Section 1, Contract 4 in Gibson Co. was awarded to Blankenbberger Bros. for \$22.3 M with E&B Paving responsible for the PCCP on the 3.28-mile long segment. Work began in spring 2011. E&B placed about a mile of PCCP by the end of the 2011 season that served as a reliable haul road for transporting aggregates to the site during the winter.

Crews hit the road running as soon as the 2012 season started. E&B was able to make efficient work of the 26-foot widened slab mainline pavement with their Gomaco 2800 and associated equipment.

Pavement thickness included 9-inch, 11-inch, and 12.5-inch. Crews achieved all their Quality Control target numbers producing high quality PCCP with a very smooth ride. ●



**I-69 Section 1, Contract 4, Gibson Co.**  
**INDOT**  
**E&B Paving, Inc.**  
**Beam, Longest & Neff, LLC**



The I-69 Corridor, Section 2, Contract 5, in Pike County was one of two segments paved by E&B Paving within the initial 67-mile mega-project. This contract was let in February of 2011 and was awarded to Crider & Crider for \$24.6 M. Work began immediately in the spring of 2011 with right-of-way clearing and excavation of the new terrain roadway. This segment is 2.64 miles in length with 6 bridge structures and approximately 894,000 cubic yards of borrow and excavation.



E&B slipformed 5.2 miles of 26-foot widened slab mainline of PCCP – single pass in each direction. Since the bridges were done, they were able to pave right into the bridge approach, lift up the paver, walk across the bridge, then set down and continue paving; an extremely efficient operation that yielded excellent results. E&B's experienced Quality Control team managed the mix at the batch plant in Petersburg. They placed 81,066 square yards of 11-inch PCCP, averaged 11.5-inches thickness, 636 psi flexural strength, and entrained air was 6.9 percent. The crew delivered a smooth ride that opened to traffic in November 2012. ●



**I-69 Section 2, Contract 5, Pike Co.**  
**INDOT**  
**E&B Paving, Inc.**  
**United Consulting**

**Award Category: Urban Arterials & Collectors**

## Perseverance Pays Dividends

The long awaited extension of Maplecrest Rd. represents a significant improvement for the community and local contractor, Primco, Inc. delivered a quality job on time and under budget. The project encompassed 1.5 miles in total length, four bridges, one river crossing, 230,000 cubic yards of excavation, 450,000 cubic yards of borrow, 40-feet of fill under pavement, 40,000 lineal feet of water, waste water and storm piping, a 10-foot wide pedestrian/bike path on the east side and significant coordination among multiple governmental agencies over three seasons. The final grade was left unpaved for a full year to allow surcharging and settling because of the depth of fill and soil characteristics. Primco placed 43,258 square yards of 11-in and 9-inch PCCP, built four bridges, and delivered this significant regional improvement to their hometown community at more that 35% below the engineers estimate.

The north end of the project required that access be maintained to a bio-solids facility for the 200 tractor-trailer haulers arriving daily. Primco worked with the county to redesign the access road with PCCP, accommodating necessary access during construction while



providing a durable long-term solution.

This federally funded project was a multi-agency effort involving local investments from Allen Co., the City of New Haven and the City of Fort Wayne. The project reduced at-grade rail crossings, dramatically improving emergency response times in the area. In addition, its impact on local economic development was significant as the project greatly improved accessibility to Do-it Best Hardware newly established World Headquarters at the base of the project and the Norfolk Southern Corporation's River Haven yard.

The Maplecrest Road Extension opened to traffic on October 30, 2012. ●

### Maplecrest Road Extension

**Allen County**

**Primco, Inc.**

**American Structurepoint, Inc.**

**Fox Contractors Corp.**

**Award Category: County Roads**

## PCCP Roundabout Handles Heavy Truck Traffic

This roundabout intersection at Zimmer Road and old US 30 in Kosciusko County improves access to RR Donnelley's facility and the Zimmer industrial complex on the west side of Warsaw, IN. The "stout" concrete design is insurance against the heavy truck traffic anticipated through the intersection. The design also took into account the need to maintain traffic flow to the industrial and local businesses during construction.



and finally, landscaping, decorative walls, pavement striping, signage, lighting, etc. as finishing touches.

E&B used a four-phase approach on this project; underground stormwater utility installation; temporary pavement for maintenance of traffic and construction of the southern half of the roundabout; construction of the northern half of the roundabout; and

Prior to paving, 14-inches of cement-stabilized subgrade and 6-inches of compacted #53 stone were placed. The drive lanes are conventional plain jointed concrete

pavement and the inside apron and islands incorporate colored and stamped concrete. All concrete was delivered to the grade in front discharge ready mix trucks. E&B placed a total of 8,217 square yards of PCCP on this project. The Kosciusko County seat of Warsaw now has a safe, durable, and efficient intersection that accommodates heavy truck traffic while providing an attractive and inviting gateway to the city. ●



### Roundabout at old US 30 and Zimmer Road

**Kosciusko County**

**E&B Paving, Inc.**

**The Troyer Group**

**Award Category: Divided Highways (Urban)**

# Accelerate 465 Completed

The I-465/I-74 Interchange on Indianapolis' west side is the last segment of the 11-mile long, \$423M *Accelerate 465* project begun in 2007. The joint-venture team of E&B Paving, Inc. and Walsh Construction Company were the successful bidders at just over \$65M. The scope of the project included replacing loop ramps with fly-over ramps, widening the I-465 mainline, reconstructing four mainline bridges and relocating US 136.

Traffic control required managing 70,000 vehicles per day on I-465 and 24,000 vehicles per day on I-74. The I-465 portion of the project required a 6-phase maintenance of traffic plan and I-74 required an additional 4-phases. Relocating US 136 complicated the traffic flow issues and E&B Paving executed paving operations under difficult circumstances with little clearance from live traffic and many short, single-lane pours. The project was further complicated by delays in acquisition of land within the project right-of-way; adding an additional year to the project timeline.

E&B Paving set their portable concrete batch plant at the Washington Street interchange a few miles south of the project and monitored traffic conditions continuously during pours to ensure drivers could make the 30 minute time limit for delivering concrete.

E&B's crews achieved excellent results, placing 187,750 square yards of PCCP in depths of 14-inches and 12.5-inches. The 7-day flexural strength averaged 670 psi and entrained air registered 7.2 percent. Smoothness numbers were very good, con-



sidering the challenging paving sequences with numerous short segments.

This monumental project significantly improves mobility and safety through the interchange and marks the end of a major, multi-year effort on the busy west leg of I-465. ●

## **I-465/I-74 Interchange Reconstruction**

**INDOT**

**E&B Paving, Inc.**

**RW Armstrong**



**Award Category: Municipal Streets & Intersections (>30,000 SY)**

## Fishers Upgrades with PCCP

The 126th Street Reconstruction, Phase 2, is the final segment of a multi-phase upgrade to one of Fisher's east-west arterials. It stretches from just west of Promise Rd. to SR 37. Contractor E&B Paving worked with the Town of Fishers, their design firm and the construction inspection firm to adjust the maintenance of traffic plan, replacing a four-phase plan with a two-phase plan; building it one half at a time.

With space restricted for paving operations, E&B utilized a single-lane-width paving sequence delivering concrete via front discharge ready mix trucks for the entire job. Concrete was produced at IMI's plant located six miles from the job site.



Site preparation began in August 2011, east-bound paving commenced in May 2012, west-bound paving started in August, 2012 and all mainline paving was complete by September

2012. Pavement control joints were sawed at 1/8 inch width then treated with a soy-based penetrating sealant designed to improve joint performance. Stamped-colored crosswalks, typical of Fisher's arterial system, were installed to enhance the appearance of the corridor.



E&B placed 53,758 square yards of PCCP, or 5.59 lane miles in this 1.5-mile long corridor, averaging 11.3 inches thickness against the required 10.5 inches. The seven-day flexural strength measured 665 psi and entrained air registered 6.6 percent. E&B achieved a very smooth riding surface with no grinding or corrections required. ●

**126th Street Reconstruction, Phase 2**  
**Town of Fishers, Ind.**  
**E&B Paving Inc.**  
**Butler, Fairman, & Seufert, Inc.**  
**RW Armstrong**

**Award Category: Industrial & Special Paving**

## Safety-Kleen Innovates with RCC

Safety-Kleen is the largest re-refiner of used oil in the U.S., collecting, re-refining, blending, and returning various oil products to the market. They decided it was time to build their own blending facility at the East Chicago operation rather than shipping the base stock oil to a third party for blending in necessary additives.

The East Chicago Operations Manager was in search of a lower cost alternative to conventional Portland Cement Concrete Pavement (PCCP) to handle the truck traffic and point load requirements of parked tankers on the site. Roller Compacted Concrete (RCC) provided an alternative solution. Site Services, Safety-



Kleen's site and civil contractor embraced the opportunity. Ozinga Ready Mix worked with them to produce the job that started in mid July of 2012 and was completed in August 2012.

Ozinga personnel monitored aggregate and batched RCC moisture content at the plant and Flood Testing Laboratories was hired to monitor moisture and density of the RCC at the site. The specified thickness was 7-inches and required density was 98 percent. Site Services achieved compaction densities between 100.2 percent and 106.8 percent. A light coating of water was sprayed on the surface prior to a liberal application of white-pigmented curing compound. Strength tests achieved 6,960 to 7,920 psi at seven days and 8,920 to 9,270 psi at the 28 days. ●



**Safety-Kleen Systems, Inc.**  
**Site Services**  
**Hasse Construction Co., Inc.**  
**Ozinga Ready Mix Concrete, Inc.**

**Award Category: Municipal Streets & Intersections (<30,000 Square Yards)**

# Complicated Project... Smooth Finish

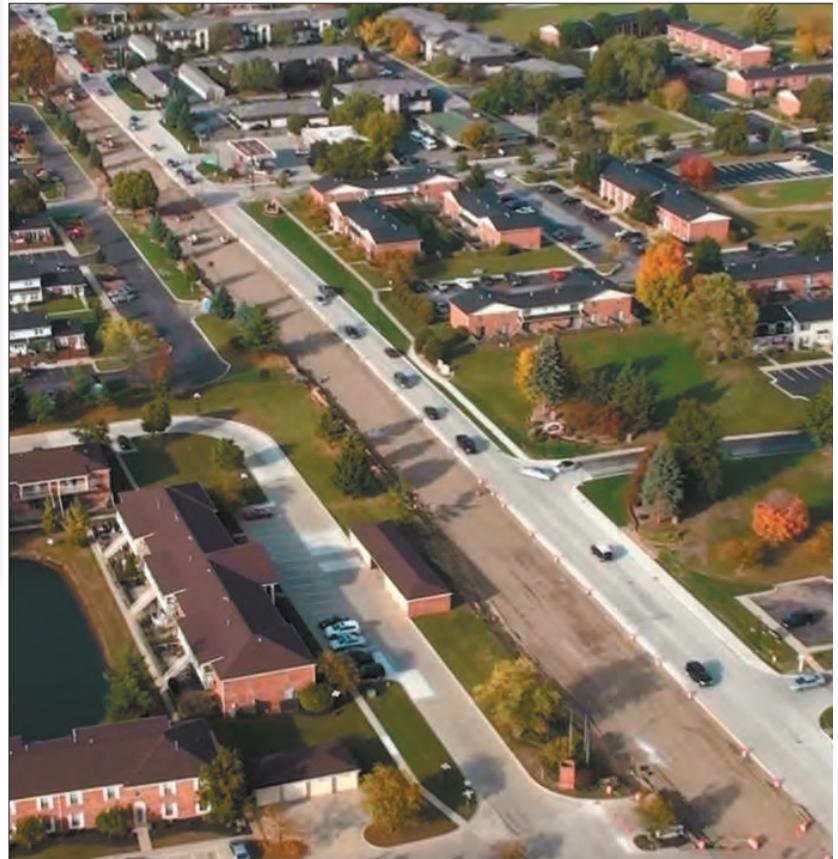
Phase IV of Mishawaka's Main Street Improvement encompasses upgrading a half-mile segment just south of West Edison Rd. on Mishawaka's north side.

Selge Construction worked with the City of Mishawaka and construction inspectors at DLZ to adjust the maintenance of traffic plan to accommodate the 22,000 vehicles per day passing through the work zone. Access to eight businesses and six apartment complexes was maintained throughout the project and Selge coordinated with local law enforcement, emergency services, and schools to minimize any short-term inconvenience. Additional scope items included installing a 30" storm sewer the length of the job, adding retaining walls and sidewalks, and new traffic signals with cameras.



Pavement was placed with Selge's CMI 3002 paver teamed with the Gomaco TC400 Tine & Cure machine running string-lines on both sides for control. Local ready mix producer, Kuert Concrete dedicated their central mix plant for the Main Street pours, providing a consistent 502 mix. Ready mix trucks were able to drive on the grade, consisting of 9-inch compacted recycled, crushed concrete #53 aggregate. Dowel baskets were carefully alligned and placed just ahead of the paver.

With close communication between the plant operator and the paving crew, slump averaged 1.75-inches, well within the 1.5-inch to 3-inch specification. Pavement thickness averaged 12.1-inches against the 12-inch thickness specified; average 3-day flexural strength was 637 psi and air entrainment averaged 6.4 percent. Overall, Selge placed 19,900 square yards of PCCP while achieving superior ride quality for the motorists of Mishawaka's Main Street. ●



**Main Street Improvements, Phase VI City of Mishawaka**  
**Selge Construction Co., Inc.**  
**Lawson-Fisher Associates P.C.**  
**DLZ Indiana**  
**Kuert Concrete**

# Calendar of Events

- July 16-19** Mid America Association of State Transportation Officials (MAASTO), Milwaukee, Wis.
- July 19** Submittals Due: ACPA Annual Awards for Excellence in Concrete Pavement (National)
- August 20-21** Indiana Street Commissioners Convention, Plymouth, Ind.
- August 25-27** American Public Works Association (APWA) Congress, Chicago, Ill.
- October 6-8** Indiana Association of Cities and Towns (IACT) Conference, Indianapolis
- October 8-11** Aviation Association of Indiana (AAI) Conference, Plymouth, Ind.



## Indiana Chapter American Concrete Pavement Association

**Mike Byers**  
Executive Director

**Patrick Long**  
Director of Marketing and  
Government Affairs



One North Capitol Avenue - Suite 480  
Indianapolis, IN 46204

317-634-8989 - FAX 317-634-8988 - [www.IndianaConcretePavement.com](http://www.IndianaConcretePavement.com)

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