



IMPLEMENTING INNOVATION



2017 CONCRETE AWARDS

February 22, 2017

The Inn at St. Johns, Plymouth, MI

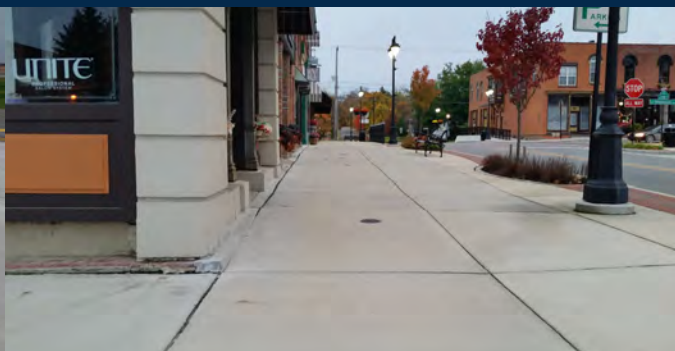
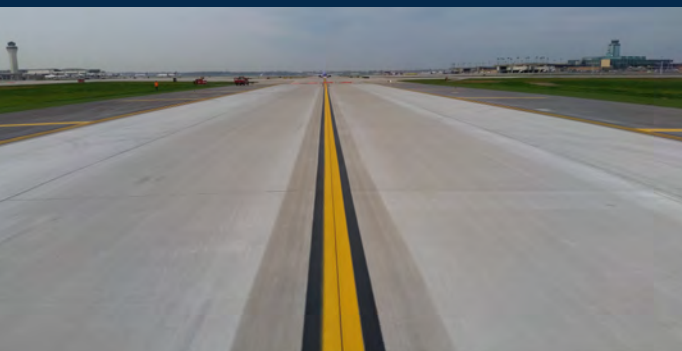




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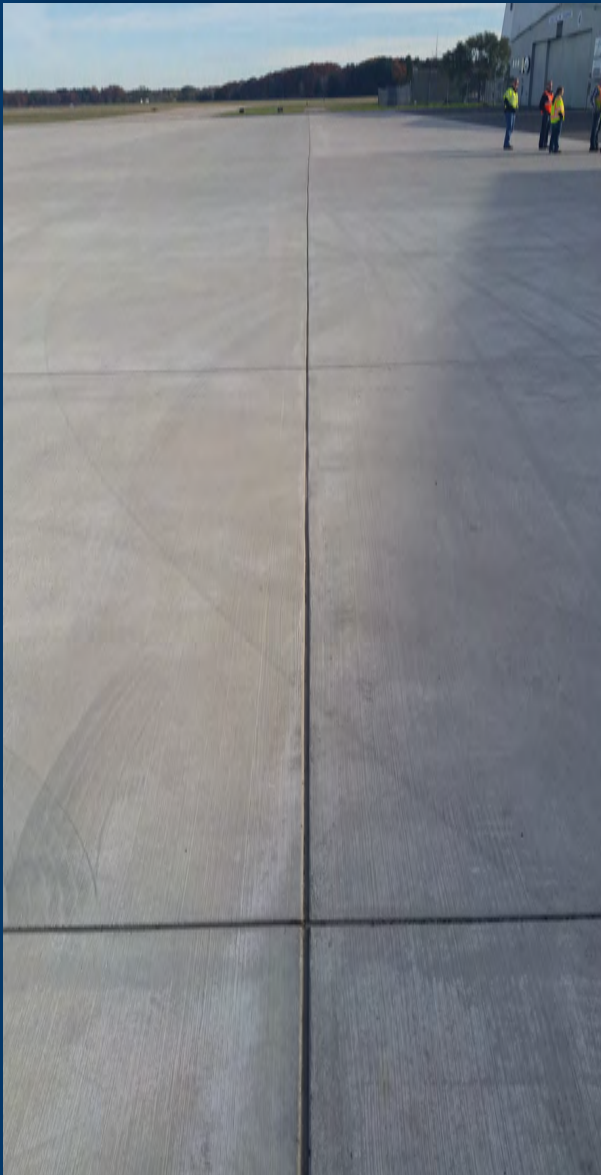
AIRPORTS - GA

Winner: Muskegon County Airport Apron
Rehabilitation & Expansion, Muskegon

OWNER:
MUSKEGON
COUNTY AIRPORT

Concrete Contractor: Florence Cement Company
Excavating Subcontractor: McCormick Sand, Inc.
Concrete Supplier: High Grade Materials
Testing Company: Soils & Structures
Engineer: Prein & Newhof
Owner: Muskegon County Airport

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The 50-year-old Terminal & GA Apron at the airport in Muskegon needed to be reconstructed and expanded to accommodate modern aircraft movements. Engineers with Prein & Newhof designed the project using a combination of reconstruction, unbonded concrete overlay, and expansion to achieve the most cost-effective solution for the airport. The expanded apron area will permit the existing gates to serve an additional aircraft by providing a safe path around the other parking position.

This second of two contracts provided 16,000 square yards of 9-inch concrete pavement to finish off the apron project, which now consists of over 44,000 square yards of new concrete apron pavement. Concrete supplier High Grade Materials provided 1200 cubic yards of ready mix concrete per day during mainline paving, to feed Florence's GOMACO 2600 slipform paver set at 33 feet wide.

Despite significant delays in obtaining FAA funding grant approval after the project was bid, the project was started and completed in 2016 by Florence along with their subcontractors and suppliers, and the results are excellent, with a satisfied airport owner.



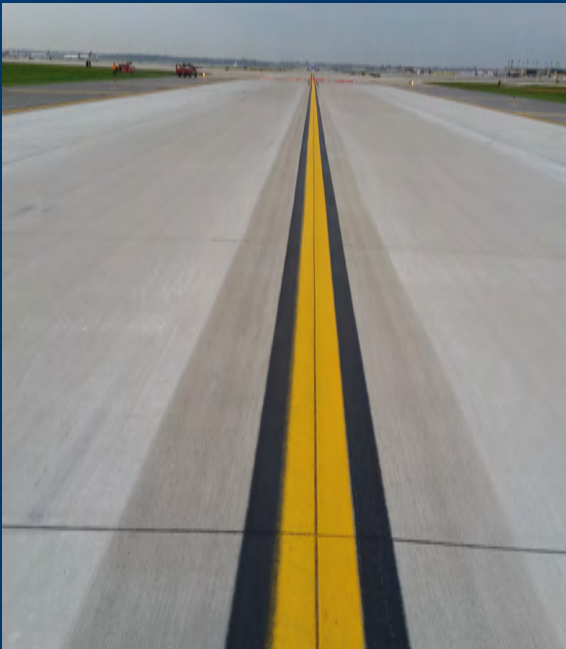
AIRPORTS - TAXIWAYS

**Winner: Whiskey & Sierra Enhancements
Phase II Detroit Metro Airport**

**OWNER:
WAYNE COUNTY
AIRPORT
AUTHORITY**

**Concrete Contractor: Interstate Highway Construction
Prime Contractor: Angelo lafrate Construction Co.
Construction Engineer: RS&H
Design Engineer: AECOM
Owner: Wayne County Airport Authority
Testing Company: TTL Associates**

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The combination of prime contractor lafrate and concrete paving contractor IHC won the bid to reconstruct taxiways surrounding the end of Runway 21L on the east side of the airport. This two-year project included full reconstruction of the pavement section from subgrade on up, designed with three different concrete thicknesses depending on aircraft loading.

Eight phases for construction were utilized to keep the airport's fixed base operators including UPS, Servisair, Olympia Aviation, Aeromod and others open for business, despite over 40 days of adverse weather conditions in 2016 alone. The numerous phases and oddball shaped pours also required 40% of the 175,000 square yards be placed by hand.

Despite the challenges, a rigorous quality control program aimed at checking thickness, strength, smoothness, grade, edge slump, and dowel bar alignment resulted in a uniform mix and high quality pavement for the owner.



AIRPORTS - RUNWAYS

Winner: Runway 4L/22R & Associated Taxiways
Detroit Metropolitan Wayne County Airport, Romulus

OWNER:
WAYNE COUNTY
AIRPORT
AUTHORITY

Concrete Contractor: Ajax Paving Industries

Design Engineer: RS&H

Owner: Wayne County Airport Authority

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The reconstruction of Runway 4L/22R at Detroit Metro Airport was perhaps one of the greatest challenges facing the Wayne County Airport Authority in recent years due to its importance to overall air traffic in southeastern Michigan.

The project consisted of nearly 450,000 syds of 18.5-inch plain concrete pavement, encompassing 6.5 miles of airfield space, making this project the largest airport concrete pavement project constructed in the United States in 2016. The runway itself is 10,000 feet long and 150 feet wide, and in high demand, requiring the Airport Authority to “Fast Track” the design and construction.

Typically, the runway is used for aircraft arrivals and can accommodate operations in low-visibility conditions, making it critical to the airport’s operational efficiency and business continuity. The project also involved reconstruction of the associated taxiway system, providing a safe connection for aircraft from the runway to the passenger terminals at Detroit Metro Airport.

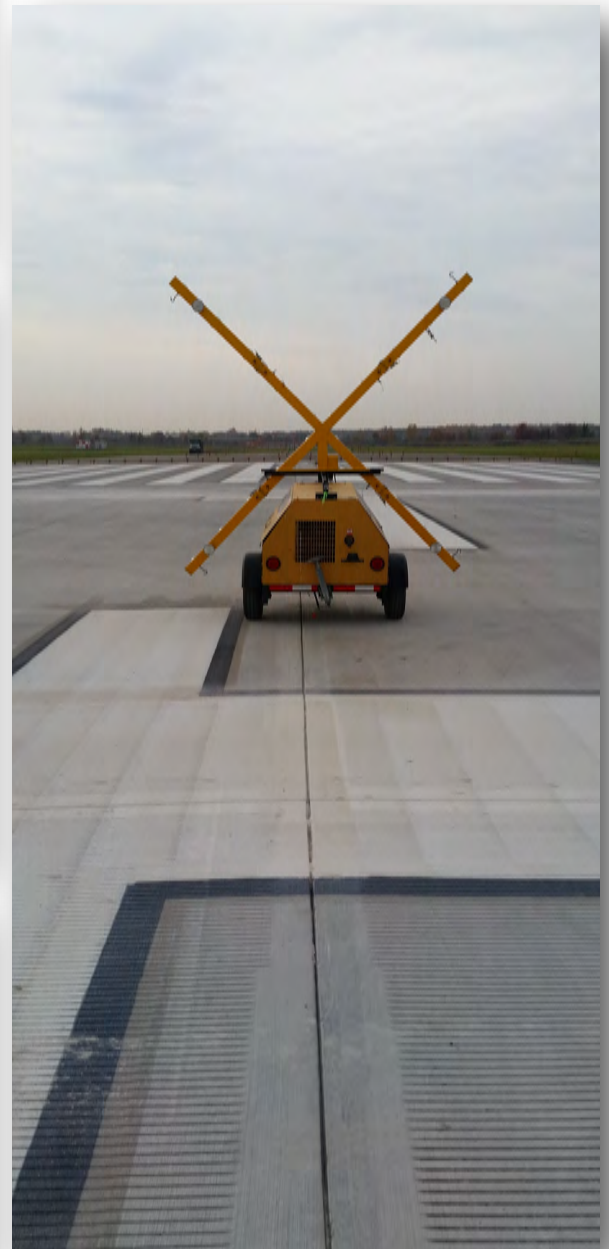
In addition to the “Fast Track” aspect of the project, the planning, design and construction incorporated sustainable practices, including the re-use of stormwater for dust control during construction, along with other initiatives proposed by the contractor during construction. This monumental project was completed on schedule, allowing Ajax to achieve the maximum allowable incentive outlined in the contract.





**OWNER:
WAYNE COUNTY
AIRPORT
AUTHORITY**

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ARTERIALS < 30,000 square yards

Winner: Lotz Road from Ford Road to Cherry Hill
Canton, Wayne County

OWNER:
WAYNE COUNTY
DPS

Contractor: Toebe Construction, LLC
Design Engineer: Wayne County DPS
Owner: Wayne County DPS

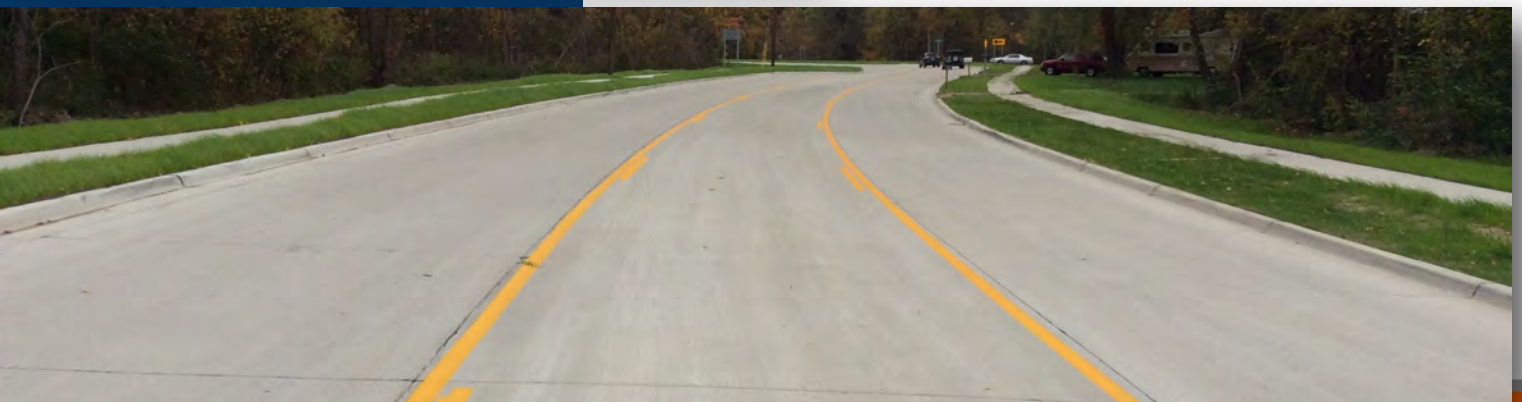
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This long awaited, \$5-million project was constructed during 2016 and now provides a much improved north-south route near the congested I-275 interchange on Canton's east side. The improvements are expected to shift traffic patterns and help ease bottlenecks on Haggerty Road, especially during rush hour. Officials and residents have waited years for the improvements to Lotz, as it is the last major road on Canton's east side to be paved.



The project involved constructing a three-lane concrete road, with a middle turn lane, as well as adding new water mains and sidewalk. Wayne County DPS designed a 10-inch pavement section for this project and specified a concrete mix utilizing 35% slag cement and high-quality, low absorption limestone to promote long-term durability. Toebe produced concrete for this project using a Rex Model S batch plant and paved it part-width with a GOMACO 2600 two-track paver set with integral curb pan inserts. By paving part-width, in only two passes, they were able to decrease the amount of time for pavement construction significantly.





ARTERIALS > 30,000 square yards

Winner: M-53 from Red Run Drain to 18 Mile Road
Cities of Sterling Heights and Warren, Macomb County

OWNER:
MDOT
OAKLAND TSC

Prime Contractor: Dan's Excavating
Concrete Contractor: Ajax Paving Industries
Design Engineer: Alfred Benesch & Co.
Testing Firm: TTL Associates
Owner: MDOT Macomb/St. Clair TSC

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In 1939, the State of Michigan designated Van Dyke Avenue as Earle Memorial Highway in honor of the first State Highway Commissioner, Horatio S. "Good Roads" Earle. Since that time, Van Dyke has been through many transitions, and despite some of the modernizations over time, one aspect remained, the ever steady congestion.

During 2015-2016, MDOT invested over \$40 million to improve over 4 miles of M-53 in the cities of Sterling Heights and Warren. Work included reconstructing the road, curb, and median left turns; removing and replacing and improving drainage; traffic signal upgrades; sidewalk and ramp improvements; and street lighting replacement. In addition, pavement resurfacing and ADA ramp improvement took place from the Red Run Drain to 15 Mile Road.

The project was originally scheduled to be completed in one season, but with numerous utility conflicts discovered early in construction, it was determined that the project would be extended to two construction seasons. Over 190,000 square yards of 9-inch non-reinforced high performance concrete pavement was placed by Ajax Paving. All mainline and turn-arounds were expedited and opened to traffic in 2015, while the intersections at 16 and 18 Mile were constructed during the 2016 construction season.



COLLECTORS

Winner: Dodge Park Road between 16 Mile & Utica
Sterling Heights, Macomb County

OWNER:
CITY OF
STERLING HEIGHTS

Prime Contractor: Dan's Excavating
Concrete Contractor: Florence Cement Company
Design Engineer: Hubbell, Roth and Clark, Inc.
Owner: City of Sterling Heights

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The reconstruction of Dodge Park Road from 16 Mile Road to Utica Road had been in the planning stage for the City of Sterling Heights for many years. In 2016, the project finally kicked off, and encompassed many new upgrades including the widening of 1.7 miles of Dodge Park Road from two to three lanes, a 10-foot wide shared use concrete path, a new pedestrian bridge on the east side of the roadway over the Plumbrook Drain, rehabilitation to the existing vehicular and pedestrian bridges of the Plumbrook Drain, and drainage improvements.

Dan's Excavating won the bid for the project and Florence Cement Company was chosen to pave the approximately 44,000 square yards of specified 9-inch plain concrete pavement. The project team hit the ground running with construction preparation beginning in February of 2016 and was able to complete the project on schedule, in mid-November.

Construction staging was a critical part of this project because of the number of residents impacted and the proximity of several schools to the project. Southbound access was maintained throughout the project and various detours were set up for the northbound phases. The City of Sterling Heights worked closely with its residents and other stakeholders to ensure that everyone was aware of the construction schedule and associated closures.

This section of Dodge Park Road has been transformed, and now provides the residents of the City of Sterling Heights with a wonderful new, aesthetically appealing corridor of infrastructure that will serve the community for many years to come.



COMMERCIAL PARKING LOTS

**OWNER:
LENCO CREDIT
UNION**

Winner: Lenco Credit Union
615 W. Maple Ave., Adrian

Concrete Contractor: Rock Hard Concrete
Concrete Supplier: Darby Ready Mix
Owner: Lenco Credit Union

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In October 2016, the Lenco Credit Union main office in Adrian undertook a project to rebuild their parking lot and drive-through with concrete, based on the good performance of their branch office which was built with a concrete parking lot in 2013.

The six-man crew at Rock Hard Concrete did a great job keeping the traffic clear of their work while keeping the credit union open for business. The old asphalt was removed, the base prepped, and the new five-inch concrete parking area installed in eight phases over eight days, for a total of 23,000 square feet.

The result is a great-looking concrete parking area for a local business that used a local contractor and supplier to keep the dollars flowing into the local economy.



CONCRETE PAVEMENT RESTORATION

**OWNER:
CITY OF
PORT HURON**

**Winner: 20th Street Repairs & Diamond Grinding
Dove to Beard Street, Port Huron, St. Clair County**

Concrete Contractor: Florence Cement Company

Concrete Supplier: Superior Materials

Engineer: Tetra Tech

Diamond Grinding Contractor: Opperman Grinding

Owner: City of Port Huron

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The 20th Street project involved the rehabilitation of a half mile of industrial concrete roadway in the City of Port Huron. The City, realizing the importance of business and industry to the community, committed to the improvement of the existing concrete roadway that serves several businesses who rely on a sound transportation system to serve their customers effectively.

The project included the full depth removal and replacement of over 4,000 square yards of concrete pavement as well as diamond grinding 10,000 square yards of the road surface to improve pavement texture and ride quality. Work on this project started in early September of 2016 and was completed by the end of October. The project required staging, utilizing a one-way detour, that allowed for quick and efficient completion of the construction while still allowing access to all businesses. The combination of these two pavement rehabilitation methods will provide a substantial increase to the long-term performance of the road.



DECORATIVE CONCRETE

**OWNER:
WHOLE FOODS**

Winner: Whole Foods East Lansing
2756 Grand River, East Lansing

Concrete Contractor: Albanelli Cement Contractors
Construction Manager: C.E. Gleeson Constructors
Concrete Suppliers: Builders Redi-Mix

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The newest Whole Foods location in Michigan opened in April 2016 in Meridian Township near MSU's campus in East Lansing. The 45,000 square foot facility is the seventh Whole Foods in Michigan, and the first outside the Detroit and Ann Arbor areas.

The 28,000 square foot sales floor needed to be completed with minimal construction joints, so Albanelli's crews completed the 5-inch floor in one pour. Due to the amount of pipes and other obstructions, a laser screed could not be used to place and finish the 440 cubic yards of concrete that comprised the sales floor. The mix design was created with the help of Builders Redi-Mix to produce an exceptionally aesthetic final product once the floor was polished.



DECORATIVE CONCRETE (HONORABLE MENTION)

**Winner: KVCC Culinary & Allied Health Building
418 E. Walnut Street, Kalamazoo**

**OWNER:
KALAMAZOO
VALLEY COMMUNITY
COLLEGE**

Concrete Contractor: Burgess Concrete Construction

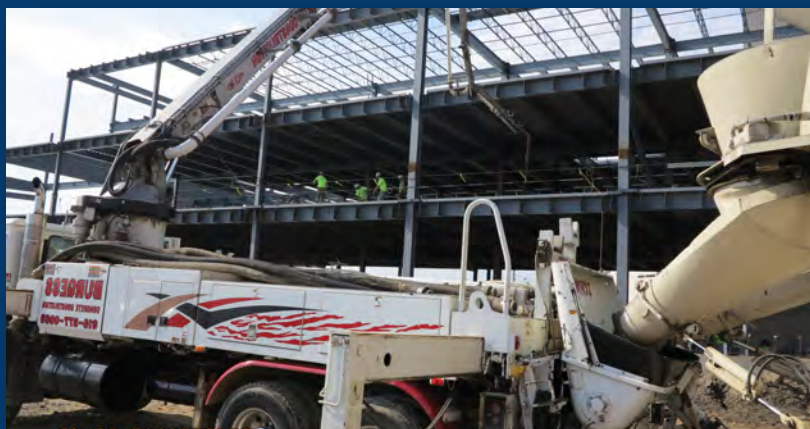
Concrete Supplier: Consumers Concrete

Construction Manager: CSM Group

Designer: TowerPinkster

Owner: Kalamazoo Valley Community College

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Kalamazoo Valley Community College (KVCC) had a vision to add new facilities to support its Culinary Arts and Allied Health Programs. One of three buildings within the new Bronson Healthy Living Campus development in downtown Kalamazoo, the 75,000 square foot Culinary and Allied Health Building supports programs in culinary education, sustainable brewing, and the third floor holds KVCC's EMT, respiratory care and nursing programs.

Burgess chose Consumers Concrete to supply the Artevia Augusta polished concrete mix for the concrete floors in the project. The floors were integrally colored and a blue topical dye was used in featured areas. Burgess then polished the concrete floors to CPAA Class C standards, which is a purposeful uneven polished finish. Not a full aggregate exposure and more than the traditional "salt and pepper look" many polished concrete floors have, this requires skill to get right, and the owner is very pleased with the results – a world class building that will help KVCC provide educational solutions for generations.

DIVIDED HIGHWAYS RURAL

OWNER:
MDOT
Bay CITY TSC

Winner: I-75 from Dixie Highway to Hess Road
Saginaw County

Concrete Contractor: Ajax Paving Industries
Testing Firm: Driesenga & Associates
Engineer/Owner: MDOT - Bay City TSC

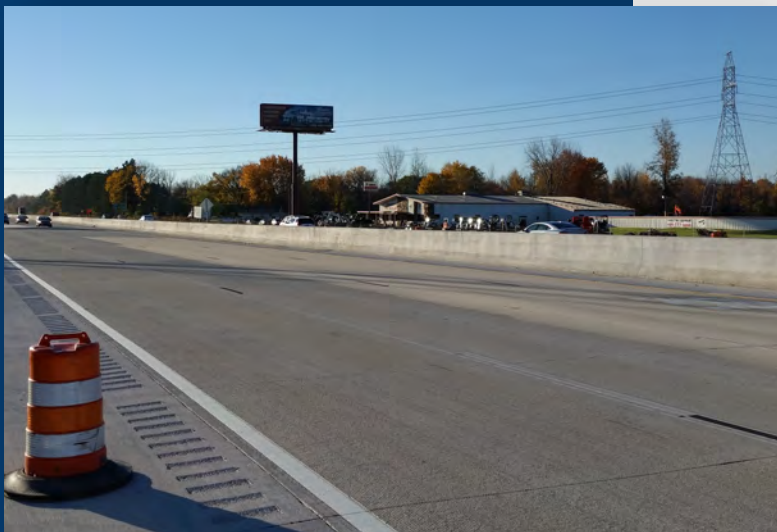
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This project on I-75 in Saginaw County consisted of 3.75 miles of pavement reconstruction and widening with additional lanes, bridge replacement, drainage improvements and construction of noise barrier wall from Dixie Highway to Hess Road. It was completed over two construction seasons beginning in 2015 with the reconstruction of southbound I-75 and the bridges over King Road and Baker and Hess Roads. In 2016, the northbound section of I-75 was reconstructed.

MDOT's Alternate Bid method was utilized for this project, where the bidders were allowed to submit a bid that included an alternate price for either the concrete pavement or HMA pavement. MDOT did not receive any bids for the HMA alternative. The project required the bidders to determine the number of calendar days needed for any lane closures to build the project and bid these days at a User Delay cost of \$10,993.37 per lane per day.

Stringless grading and paving technology were utilized by Ajax on the entire project. The pavement was placed with a GOMACO GHP-2800 with a dowel bar inserter. The consistent concrete produced on the project allowed for excellent air content and strength PWL calculations resulting in a positive Concrete Quality Incentive. In addition, excellent ride quality was achieved with IRI numbers from 50 to 70 inches per mile being recorded.



DIVIDED HIGHWAYS - URBAN

**OWNER:
MDOT
TAYLOR TSC**

**Winner: I-275 Inlay Project
5 Mile Rd. to the I-696/I-96/M-5 Interchange**

Concrete Contractor: Toebe Construction, LLC

Design Engineer: MDOT – Metro Region

Construction Engineer: Tyme Engineering

Testing Firm: TTL Associates

Owner: MDOT – Taylor TSC

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The I-275 inlay project was bid in March of 2016 as an A+B contract that included a \$150,000 per day incentive/disincentive for the number of days bid. The award was accelerated, as timing was of the essence for placing over 500,000 square yards of concrete in one construction season.

I-275 has a current ADT of almost 200,000 vehicles per day which had to be managed. In addition, the inclusion of the I-96/I-696/M-5 interchange added another layer of complexity to the project. Access, staging, and overall construction of the interchange, with very steep slopes throughout, added extra challenge. The interchange had three separate rental areas that had their own time-based penalty structure with charges by the hour.

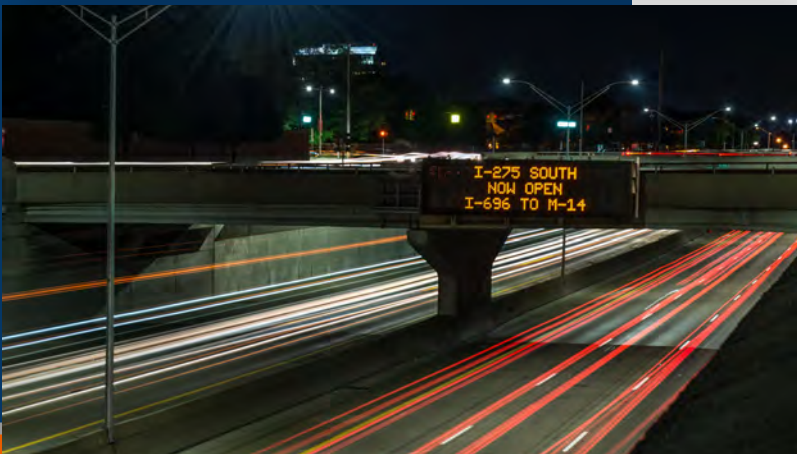
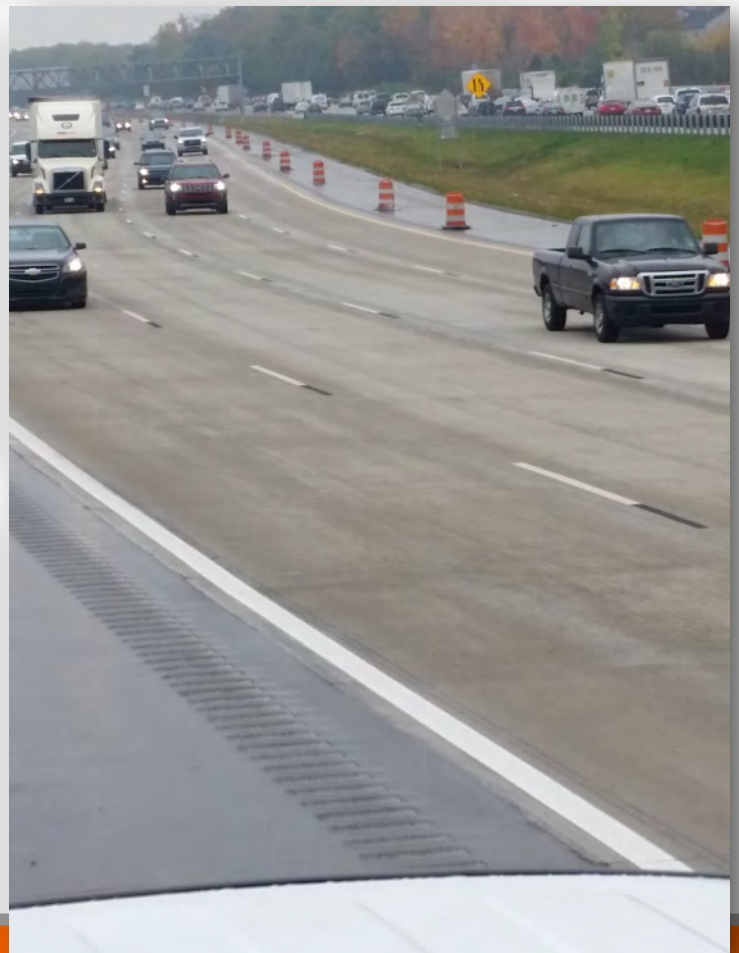
The project was called an “inlay” because only the mainline pavement was removed and replaced. Minimal work was done to the existing base and the existing shoulders were left in place. With this situation, MDOT did not allow the contractor to drive on grade and this made the job challenging from a logistical standpoint. Access to and from the work areas had to be carefully planned out so as not to cut off access to other parts of the job. Finding space for all the equipment and contract workers on the site was a constant battle.

The roadway was shut down on May 2 and the completed mainline freeway was re-opened for use on August 31, which was three days sooner than what was required for the days bid.



**OWNER:
MDOT
TAYLOR TSC**

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FLATWORK RESIDENTIAL

Winner: Jacques Nasser
651 Lone Pine Hill Drive, Bloomfield Hills

**OWNER:
JACQUES
NASSER**

**Concrete Contractor: Albanelli Cement Contractors
Concrete Supplier: Superior Materials**

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The existing brick paver drive at this residence was in need of some attention, and the homeowner wanted a snowmelt system to reduce winter maintenance requirements. With the reconstruction of the driveway, a portion of the circle drive was removed and re-landscaped, reducing the number of curb cuts along the road.

Superior Materials provided Albanelli's crews with just under 100 cubic yards of concrete, placed at 6 inches thick. All 5,000 square feet of the driveway feature an exposed aggregate finish, with the snowmelt system throughout. Special attention to joint layout was needed to incorporate the blockouts surrounding the snowmelt system access boxes in the driveway. The new exposed aggregate driveway blends in well with the architectural style of the home, and will provide the homeowner with a durable, safe surface all year round.



FLATWORK COMMERCIAL

Winner: Michigan CAT Showroom & Service Center
7650 Millet Highway, Lansing

OWNER:
MICHIGAN
CAT

Concrete Contractor (placement): Granger Construction

Concrete Contractor (polishing): Burgess Concrete

Concrete Supplier: Consumers Concrete

Engineer: Bergmann Associates

Owner: Michigan CAT

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The name Michigan CAT brings to mind big, heavy equipment that defines construction today. For their new 64,000 square foot Lansing facility, the service areas demanded a high performance product that could stand up to the type of work and equipment Michigan CAT is known for. Granger Construction placed and troweled the concrete floors and chose Consumers Concrete to provide a durable concrete for the service and work areas. The concrete mix utilized Tuf-Strand fibers and the placement had metallic dry shake hardener added to it.

Burgess was chosen to polish the office and showroom floor to an aggregate exposure that was nothing short of exceptional. The comments received back on the polished floors have been universally positive. The uniform look of the exposed aggregate in the polish and the quality of the work completed on this project make it noteworthy. The result is a first-class facility that will serve Michigan CAT for many years to come.



MUNICIPAL FLATWORK

**OWNER:
CITY OF
FENTON**

Winner: Downtown Fenton Streetscape and Road Rehabilitation, Fenton

Contractor: Eastlund Concrete Construction

Concrete Supplier: Modern Concrete

Testing Company: G2 Consulting Group

Engineer: OHM Advisors

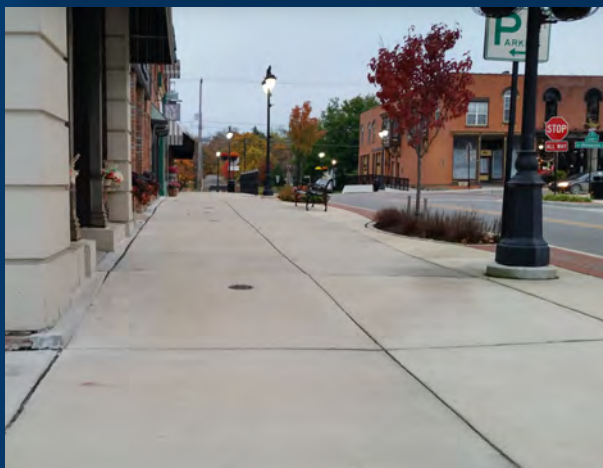
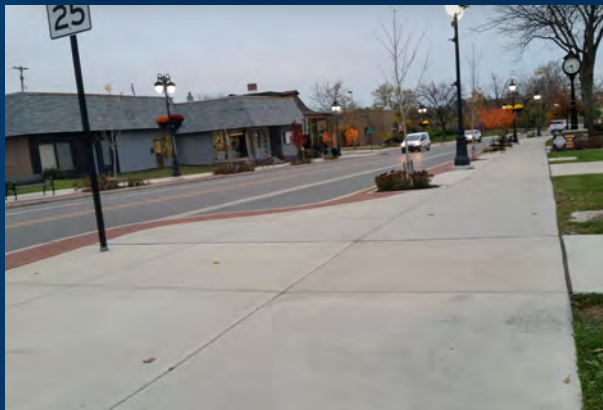
Owner: City of Fenton

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The streetscape and road reconstruction project in downtown Fenton, Michigan provided significant enhancements to the downtown area and also replaced water mains, sanitary and storm sewer, roadway pavement, and sidewalks on Leroy and Shiawassee streets. Sidewalks and ramps are now fully ADA compliant and provide excellent access to the downtown area for all pedestrians and users. Wide walkways and decorative concrete planter boxes improve the aesthetics of downtown Fenton, and streetlights provide safe access in all seasons.

Maintaining access to businesses during construction required temporary hard surface walkways and three main phases of construction. The quality of the concrete work is exceptional, with regard to jointing, finishing, and alignment. Close attention to mix design provided a uniform consistent texture of the broom finish on the concrete. This outstanding project has resulted in an improved quality of life for residents and visitors in Fenton, and has encouraged more development and improvements in adjacent neighborhoods.



INDUSTRIAL

Winner: Brembo North American Foundry
M-60 at Van Wert Road, Homer

OWNER:
BREMBO
NORTH AMERICA

Contractor: Christman Constructors (interior)
Contractor: Albanelli Cement Contractors (exterior)
Concrete Suppliers: Shafer Redi-Mix
Owner: Brembo North America

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Brembo is the world leader and acknowledged innovator of brake technology, and produces brake discs, calipers, and other products at its Homer facility. This new cast iron foundry that opened in April 2016 is the third manufacturing facility that Brembo has expanded or built at the Homer, Michigan manufacturing site, and is the fourth in Brembo's worldwide foundry network and the first Brembo cast iron foundry in North America.

Having their own dedicated foundry in the United States allows Brembo to have maximum control over their process and costs. Customers benefit by having a dedicated, fully integrated manufacturing process for their brake components. At over 330,000 square feet, the expansion almost doubles the company's footprint at the Homer production facility, and has increased production of brake rotors and calipers by 25 percent or more.

Shafer Redi-Mix supplied all the concrete for this expansion, including 20,000 cubic yards of interior concrete placed by Christman Constructors, and 6,000 cubic yards of exterior concrete placed by Albanelli Cement Contractors.



INTERSECTIONS

OWNER:
MDOT
MARSHALL TSC

Winner: US-12 Roundabout

Intersection at M-205 & Five Points Rd, Edwardsburg

Concrete Contractor: Selge Construction Co.

Concrete Supplier: High Grade Materials

Testing Company: Driesenga & Associates

Construction Engineer: Alfred Benesch & Co.

Design Engineer: AECOM

Owner: MDOT – Marshall TSC

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The new roundabout on US-12, just about a half mile from the Indiana border, has made a huge improvement in terms of traffic movement and safety at this unique intersection. In fact, the north-south cross road (Five Points Road) is aptly named after this intersection, which features Old M-205 intersecting the other two roads in the southwest quadrant.

Concrete work for the 6,000 square yard roundabout included complex forming and joint layout, to ensure that various radii and grades matched from pour to pour, throughout the three main phases used to build the intersection, while maintaining traffic through the construction zone. Curbs were placed first with a slipform curb machine, and filled in between with 8 inches of high performance concrete struck off with a vibratory screed. Decorative concrete in the mountable truck apron and in the splitter islands stands out, and helps notify drivers of travel lanes versus other paved areas.



RAMPS/INTERCHANGES

**Winner: I-96/US-23 Interchange
Brighton, Livingston County**

**OWNER:
MDOT
BRIGHTON TSC**

**Concrete Contractor: Toebe Construction, LLC
Design Engineer: MDOT Brighton TSC
Construction Engineer: Tyme Engineering
Testing Firm: TTL Associates, Inc.
Subcontractor: Sanches Construction
Concrete Supplier: Superior Materials
Owner: MDOT**

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This two-year project was broken into over 15 stages and sub stages of construction in effort to maintain traffic through the busy interchange. Within these stages there were several “lane-rental” areas and incentive/disincentives for impeding traffic. In year one, roughly 750,000 cubic yards of embankment was brought in and three brand new bridges were built to facilitate the paving of the new express lanes through the interchange while traffic was maintained on the old I-96 freeway section.

In year two, traffic was then able to utilize the new express section while the old I-96 section was reconstructed into what is now the new Collector Distributor (CD) roadway. The CD roadway paving was particularly challenging due to the fact that at least one lane of traffic and most all ramps were maintained at all times.

Sanches Construction, a subcontractor on the project team, installed over 21,000 lineal feet of concrete barrier wall in several configurations. Each configuration required a different mold which allowed Sanches to maintain flexibility in coordinating schedules with other contractors on site. They are recognized on this project for this high-quality structural barrier wall.

For Toebe, setting track line, equipment staging, delivery truck ingress and egress, and crew parking were all challenging due to the live traffic and limited space available on the project site. Every stage of the project had to be carefully planned and implemented in order to ensure a high quality product and a safe construction environment. The entire project team had to work closely to complete this project successfully, and good communication and planning was the key.



RESIDENTIAL STREETS

**OWNER:
CITY OF
DEARBORN**

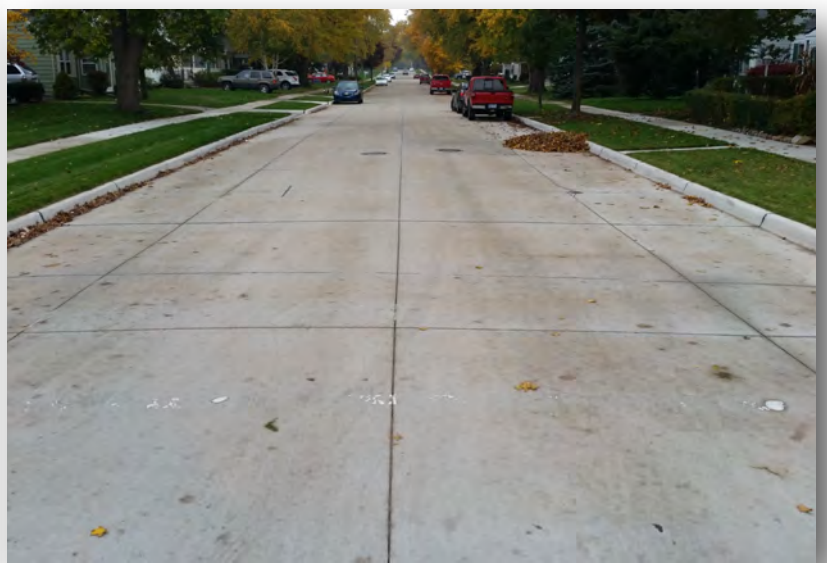
**Winner: Dearborn Sewer Separation
West of Telegraph, North & South of Princeton, Dearborn**

**Concrete Contractor: Florence Cement Company
Owner/Engineer: City of Dearborn**

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The City of Dearborn over the past several years has embarked on an aggressive plan to upgrade its infrastructure. In accordance with the federally mandated CSO (Combined Sewer Overflow) control project, the City continued in 2016 to separate the current single line sewer system into two lines, one for sanitary and one for stormwater. In order to do this, the City contracted to have the existing pavement structure removed down to the current sewer and install new sewer and water lines. In addition for this project, Florence paved over 100,000 square yards of new plain 8-inch concrete pavement for the residential streets that were reconstructed.



STRUCTURAL

**OWNER:
VILLAGE OF
MIDDLEVILLE**

**Winner: Middleville Bridge Replacement
Main Street over the Thornapple River, Middleville**

**Prime Contractor: Milbocker & Sons
Decorative Contractor: F and M Concrete Construction
Concrete Supplier: Consumers Concrete
Testing Company: Driesenga & Associates
Engineer: Williams & Works
Owner: Village of Middleville**

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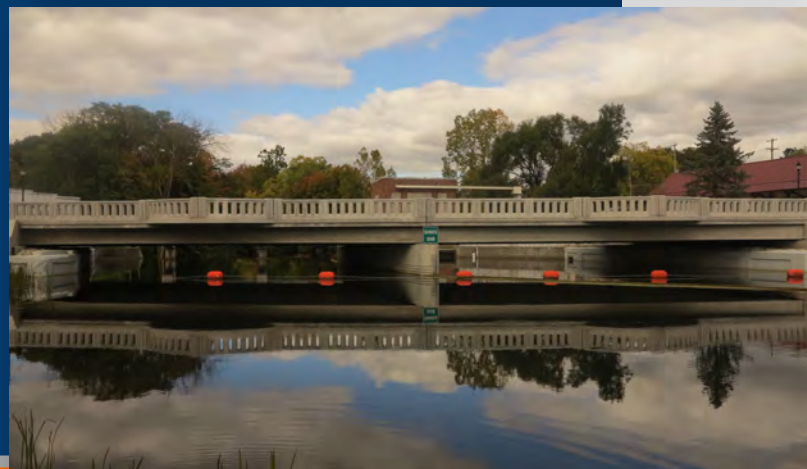


The replacement of the Main Street bridge in downtown Middleville demonstrates how quality overcomes adversity. The project originally started as a part-width replacement, but because of the lack of information on the existing structure, the plans needed to change and the bridge replaced in one phase.

The team of Milbocker and Williams and Works worked through the lack of information and the inconvenience of having a dam right next to the bridge. The new two-span spread-box beam bridge has a very nice Texas Modified Railing that features four "viewing areas" built into them for viewing the Thornapple River and the existing dam. Milbocker used styrofoam blockouts to create the "windows" in the railings, paying attention to detail, as the quality of the finish would be subject to close-up inspection as residents and visitors viewed the river and the dam.



F and M completed the decorative concrete on either side of the bridge that blends into the existing sidewalk and decorative intersections in downtown Middleville. The careful color matching required two different integral colors and a matching stamp pattern. The end result is a beautiful bridge and roadway that ties seamlessly into the quaint downtown area and will serve the residents of Middleville for many decades to come.



SUBDIVISIONS

OWNER:
PULTE HOMES

Winner: Deneweth Farms Sub, Phases 2, 3, & 4
Macomb Township

Contractor: Florence Cement Company
Engineer(s): Fazal Khan & Associates,
Macomb Department of Roads
Owner: Pulte Land Company, LLC

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Deneweth Farms subdivision is one of Pulte Land Company's premier residential communities in Macomb Township. Designed for active families, it is in close proximity to the Hall Road corridor which offers a wide variety of shopping, dining and entertainment experiences, and is located in the top rated Utica School District.

In 2016, Florence Cement was contracted to complete the construction of the road pavement in Phases 2, 3 and 4 of the development. Florence constructed over 14,000 square yards of 7-inch plain concrete pavement with integral curb and gutter to complete these phases. The new concrete pavement provides for sound infrastructure and adds an aesthetically appealing look to this new upscale subdivision.



SPECIAL INNOVATIVE

**OWNER:
GENERAL
MOTORS**

Winner: GM Milford Road - 7.2% Grade Hill
GM Milford Proving Ground, Livingston County

Concrete Contractor: Angelo lafrate Construction Co.

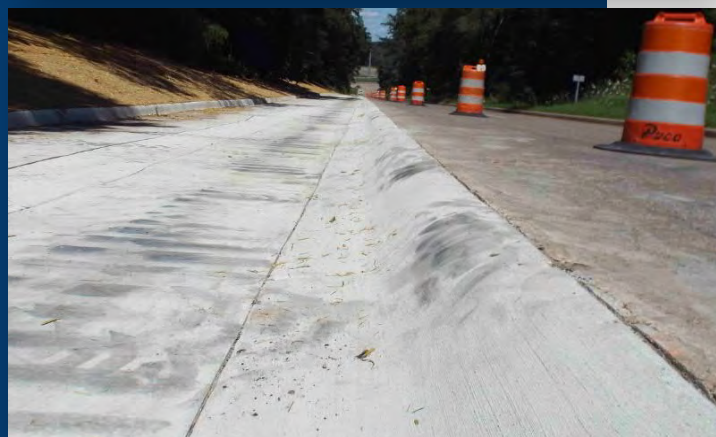
Concrete Supplier: Superior Materials

Design Engineer: PEA, Inc.

Construction Engineer: Livingston Engineering

Owner: General Motors

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This unique concrete project was constructed as part of a larger effort by GM to upgrade several of its major “test events” at the proving grounds. Test events are used by GM to simulate various driving conditions and vehicle reactions, to assist GM engineers in their designs. The construction of this new section required significant coordination and collaboration between the owner and contractor.

The 7.2% grade hill required a special design based on a scan of a section of asphalt pavement at the proving grounds that GM desired to have paved in concrete for a longer lasting surface. The existing surface data was interpreted by GM and then refined by lafrate to produce laser cut metal forms for use in forming each wheel path individually for two separate sections on the 7.2% grade hill.

Concrete for this project was placed by hand, and the crew had to place and finish it on a 7.2% slope! This was no easy task given that the tolerance for desired surface texture was set to a very tight limit. In order to achieve this limit, lafrate constructed multiple test sections to help them determine the proper broom pressure and pattern to provide the desired broom finish so that it did not interfere with the expected performance metrics of the “test event”. Due to this detail to quality and planning ahead of time, lafrate was able to achieve an excellent finish, without need for any corrective grinding.

For this project, GM also required the use of high quality dolomite aggregate in the concrete mix to help achieve their goal of a durable long lasting pavement design.

SPECIAL INNOVATIVE

**OWNER:
GENERAL
MOTORS**

Winner: Circle Track Reconstruction
GM - Milford Proving Grounds, Milford

Contractor: Ajax Paving Industries
Design Engineer: PEA, Inc.
Survey: Livingston Engineering
Testing Firms: Testing Engineers & Consultants
Survey Solutions, Inc.
Owner: GM Milford Proving Grounds

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In 1924, General Motors' original Milford Proving Grounds started with only 1,125 acres of land with 7 miles of test roads, and by 1964 the grounds grew to 4,011 acres of land with 73 miles of roads that included the Circle Test Track. Today the Circle Test Track is the busiest and most important test track at the Milford Proving Grounds. This track is utilized for both development and durability testing of approximately 900 vehicles per day, and an estimated 1.5 million miles per year are test driven.

The original test track consisted of an upper concrete shoulder, five concrete driving lanes posted for speeds up to 100 mph and inner asphalt shoulders. The upper driving lane is designed with an incredible 30 percent bank angle. The parabolic banking track is approximately 4.5 miles long and is known to be the only concrete test track of its kind. The Circle Test Track was originally opened on November 22, 1963 with an expected design life of 30-50 years.

Having more than sufficiently achieved its design life, the test track required major rehabilitation and reconstruction in 2016. The rehabilitation and reconstruction work consisted of the following; patching lane five, removing and replacing four concrete driving lanes and inner asphalt shoulder, milling and replacement of asphalt ramps to the test track, resealing all of the existing joints in the upper concrete shoulder and lane five, subgrade improvements, installation of edge drain near the inner lane, and improving signage, electrical and striping.

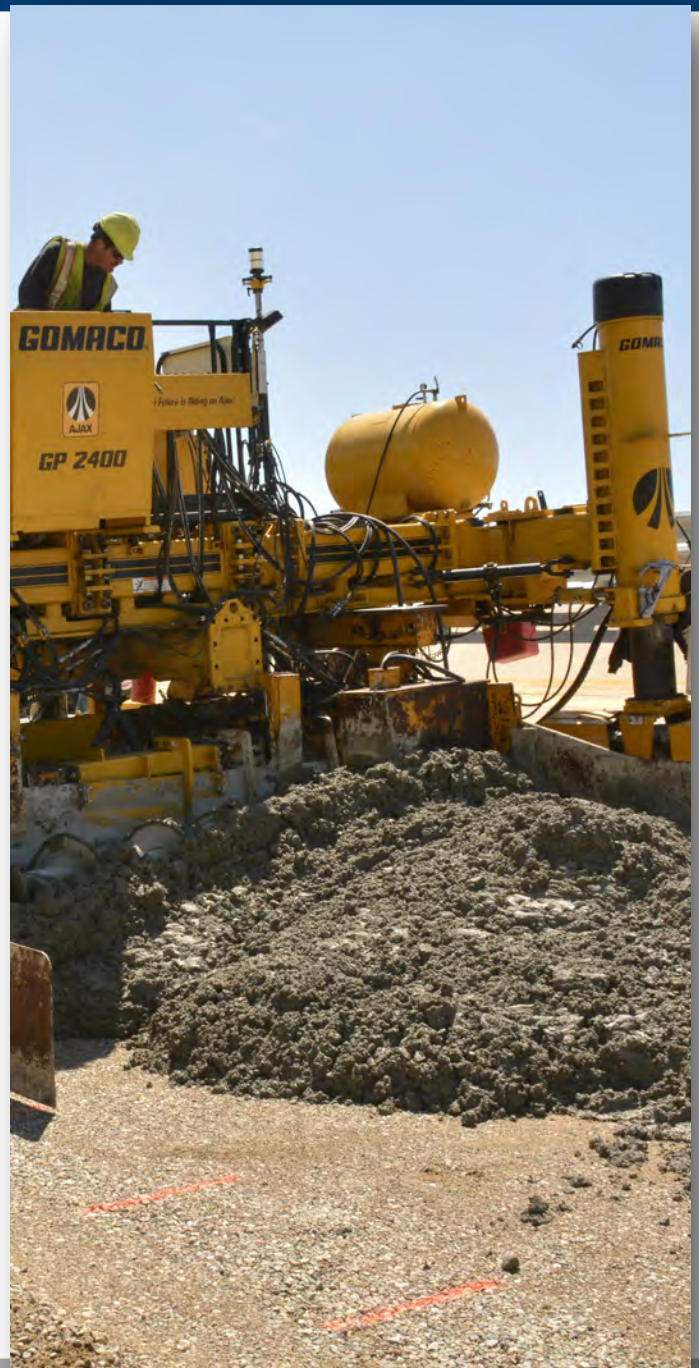
GM was able to incorporate the latest technology and concrete specifications to ensure that the new pavement will continue to allow for vehicle testing for the next 50 years.



**OWNER:
GENERAL
MOTORS**



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2937 Atrium Drive
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TIME AND EXPERIENCE TO EVALUATE
THIS YEAR'S PROJECTS.***

2017 Upcoming Events

ADA Seminars - March 7, 14 & April 20, 2017

8:00am - 12:00am

MITA/MCA Main Office/Okemos/MI

Registration can be fund at www.michiganltap.org

Level 1 & Level 2 Certification Courses

Various Times & Locations (see MCA Website)

ACI Flatwork Finisher/Decorative/Pervious Concrete Finisher

Various Times & Locations

MCA Annual Scholarship Golf Outing - June 28, 2017

9:00am - 4:30pm

Eagle Eye Golf Club/Bath/MI

For more information or to register for any of these events

Please visit www.miconcrete.org or call (517) 347-7720