

March 24, 2006

TO: John M. Lamerato, Acting City Manager

FROM: Brian Murphy, Assistant City Manager/Services
Steven J. Vandette, City Engineer

SUBJECT: Agenda Item – Award of Excellence from the Michigan Concrete Paving Association for Coolidge Highway Realignment at Wattles Road

The Michigan Concrete Paving Association selected the Coolidge Highway Realignment at Wattles Road as the top project for 2006 in the Special Innovative Project category, sharing that honor with the I-94 reconstruction project from US-24 to Wyoming Avenue in Detroit. Statewide there were over 50 projects considered for awards in 15 categories.

This project was the City of Troy's first whitetopping project and the first project of its type in Oakland County. Whitetopping was used as an efficient and cost effective method of repairing this asphalt intersection that exhibited rutting and shoving of the asphalt pavement due to high traffic volumes. The intersection was whitetopped over one weekend last September, closing the intersection on Friday evening and reopening it Monday to traffic.

The realignment portion of the project was completed prior to the whitetopping under a full closure of Coolidge at Wattles. This mode of construction had several advantages including shorter construction time, less cost, and increased worker safety. Residents who were surveyed prior to the start of construction responded overwhelming, 93%, in favor of the full closure.

The award was presented on Thursday, February 16th at the Concrete Association's annual awards banquet held at the Troy Marriott. The City of Troy Engineering Department, Hubbell, Roth and Clark Consulting Engineers, and the paving contractor, Six-S Construction Co., were each recognized for their efforts and received plaques for special achievement in concrete paving.

This is the fourth award in six years for the City of Troy's Engineering Department. Previous project winners were Rochester Road from I-75 to Torpey, Big Beaver from I-75 to Rochester Road and Long Lake Road from Carnaby to Dequindre.

City of Troy Paves the Way with Innovative Whitetopping

As with any typical city, the infrastructure is being tested on a daily basis. Growing traffic and limited resources combine to cause more distress to the roads and limited resources don't always allow for a complete reconstruction. What can a city do to combat this phenomenon? The simple answer is to look at what the City of Troy does!

“Flexibility was the key to this project and the City of Troy really worked with us.”
– John Wood,
Six-S, Inc.

The City of Troy's motto is “The City of Tomorrow, Today.” With that in mind, the City is very progressive when it comes to constructing and maintaining roads. Troy recently constructed its first whitetopping project because it knows that it must stretch limited road dollars as far as it can and whitetopping fits the bill.

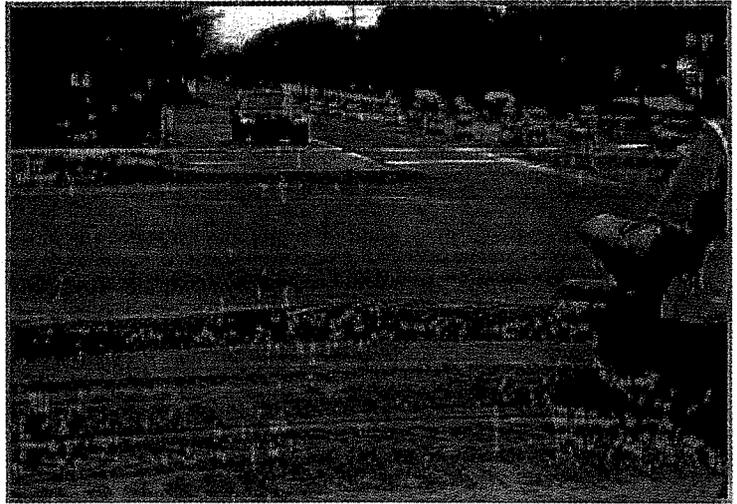
Troy completed its first whitetopping project at the intersection of Coolidge Highway and Wattles Road over the weekend of September 9-11, 2005. The project was unique in several ways and shows that a little innovative thinking

can go a long way.

First, the City of Troy Engineering Department utilized an alternate bid which included the choice of concrete or asphalt. The City knew that this would foster greater competition and ultimately save taxpayer dollars. After the bids were received and reviewed, the City chose concrete whitetopping because the concrete prices were so competitive. Six-S, Inc. of Waterford submitted the winning bid. Another benefit of using concrete was that this also ensured that the project would have a longer term fix and a more consistent look with nearby pavements.

Hubbell, Roth and Clark, of Bloomfield Hills was the design firm for the City. The project called for bridging an existing concrete boulevard on Coolidge Road, south of the intersection, and constructing a new concrete boulevard section just north approximately for approximately one-half mile. Four inches of concrete would be overlaid on the existing asphalt pavement.

Second, the City utilized a unique design mix. The design called for a 6 sack concrete mix with 35% slag cement replacement, a mid range water reducer and a non



The intersection prior to whitetopping

chloride accelerator to ensure that the concrete met strength requirements of 3000 psi compressive strength or 500 flexural strength within 36 hours. This design mix was intended to give early strength to allow for the intersection to be opened to traffic sooner than a traditional concrete project. The contractor embraced the design mix knowing it was the right thing to do.

“The concrete mix was designed to provide early opening as well as provide ASR mitigation. This was done by adding 35% slag cement,” explained John Wood of Six-S.

In addition, maturity meters were used to monitor the early age strength of the concrete. The use of maturity meters is growing across the country as a modern alternative to the traditional cylinder method of determining early strength of concrete. Maturity meters allow for more precise and timely data on concrete strength.

Third, the project bid allowed the contractor to choose how the project could be constructed, either on a fast track schedule by completely shutting down the project, or in the traditional manner using partial-width construction and work on the weekends. Neall Schroeder, Project Manager for the City of Troy, explained, “The contractor chose to completely shut the road down. This allowed them to work more efficiently and get the job done in a timelier manner.” John Wood concurred, “We spoke with the residents and all agreed that it would be best to completely close the intersection so that work would be expedited.”

For the construction, the asphalt was milled out of the intersection prior to the closure on Friday evening. The crew began paving on Saturday morning and finished later that afternoon. John Wood explained, “Flexibility was the key to this project and the City of Troy should be commended for their

CALENDAR OF
UPCOMING
EVENTS

Board of Directors

Meetings

November 8, 2005

January 10, 2006

March 7, 2006

Troy Marriott

Troy Michigan

Annual Meeting

March 2, 2006

Troy Marriott

Troy Michigan

36th Annual Workshop

February 15-16, 2006

Troy Marriott

Troy Michigan

Golf Outing

June 27, 2006

Timber Ridge Golf Course

East Lansing Michigan

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innovative approach."

The project was wrapped up with saw cutting, pavement markings, and ultimately opened to traffic Monday morning at 5:00 am as the contract specified. From beginning to end, the intersection was closed, paved, and reopened to traffic in less than three days.

The result is quite impressive. A worn-out intersection is replaced with a safe new intersection made of durable concrete. The residents are pleased because they have a new intersection and the construction minimized any delays.



The completed whitetopping at the intersection of Coolidge and Wattles in Troy.

This shows that a little innovative thinking can go a long way. For Troy, the "City of Tomorrow, Today" is leading the way with innovations like whitetopping. ■

CONCRETE solutions

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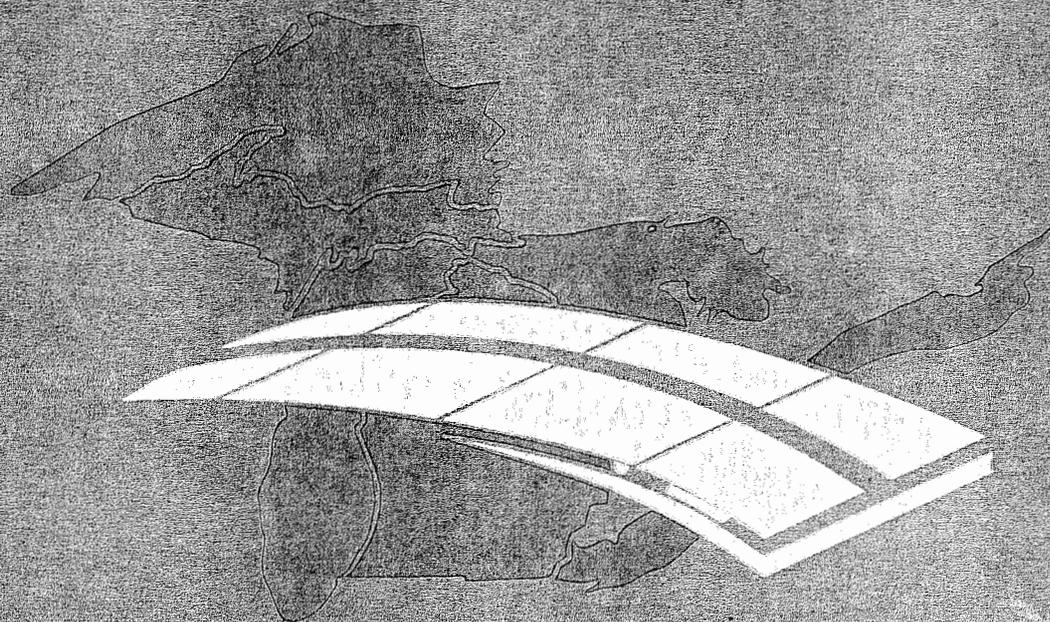
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AWARD OF EXCELLENCE



To
City of Troy
For
Coolidge Highway
Coolidge Highway Realignment at Wattles Road
2006

