2015 ISSA President’s Award
Telfer Highway Technologies
City and County of San Francisco
Multi Layer Micro Surfacing Project

City of San Francisco, Type II Micro being placed over Type III

Submitted by:

Telfer
HIGHWAY TECHNOLOGIES

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City and County of San Francisco
Marty Martin, Resident Engineer
1680 Mission Street
4th Floor
San Francisco, CA 94103
415-728-1730

Contractor:
Telfer Highway Technologies
4522 Parker Ave., Bldg. 700, Ste. 350
McClellan, CA 95652

Suppliers & Services:
Micro Surfacing Aggregates- Graniterock, Aromas, CA
Micro Surfacing Emulsion– Telfer Oil, Martinez, CA
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Key Personnel

City and County of San Francisco
Pavement Manager        Paul Baradas
Construction Manager    Michelle Woo
Resident Engineer        Marty Martin

Telfer Highway Technologies (THT)
Division Manager         Steve Olsen
Project Manager          Victoria Martinez
Superintendent          Santiago Llamas

Telfer Oil Company
Scott Dmytrow
Al Hector

Mead Westvaco
Rich Wente

Graniterock
Don Barrett

Project Details

Contract Year         2014-2015
Project Number       2310J
Project Location     Various Locations in and around the City and County of SF

Engineer’s Estimate   $1,490,000.00
Original Bid Amount   $1,319,000.00
Final Billing Amount  $2,208,262.98
Contract Acceptance Date September 3, 2015

Project completed on time.
There were NO safety issues on this project
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Written description of roadway and outline of the need for treatment

15-20 year old aged oxidized existing asphalt pavements with base repairs completed prior to application. These roads had not been maintained other than local crack repair or base failure areas. The streets were rough riding and exhibited raveling and loss of fines.

Items of work including:
- Installation of Construction Area Signs
- Traffic control
- Removal and Replacement of major striping items
- Crack Sealing
- Pre-leveling in selected areas with Type II Micro
- Placement of Type III Micro Surfacing as leveling course
- Placement of Type II Micro Surfacing as a wearing course
- Placement of temporary pavement markers
- Asphalt patching and repair
General Discussion:

The City and County of San Francisco covers 46.69 square miles and has a population of 805,235 residents. This places it in the top 20 most densely populated areas in the United States and creates some unique issues when attempting to perform pavement preservation operations. Some of the major considerations are traffic, bicycles, pedestrians, etc. In addition to those types of considerations, the political atmosphere in the city adds its’ own level of difficulty as any work performed in the City/County is always under an environmental and political microscope.

Also adding to the degree of difficulty for this project are the weather conditions. The average summer high temperature for the City is 67 degrees and the average low is 53 degrees. Most days the marine layer covers the City until at least 10 AM and comes back in by 7 PM. This creates short work windows and requires a micro surfacing system that will snap and set in time to return traffic before 5 PM when the 800,000 plus residents return home.

Some of the highlights of this project were:

- Use of both a Bergkamp M1E Continuous Paver (first time the City had ever had a continuous used on their project) as well as 3 truck mount Road Savers.
- Concise scheduling and coordination to meet strict City time constraints and construction requirements such as:
  - 11 Different districts within the agency boundaries
  - 250 segments of single Type II application
  - 296 segments of multi-layer Type III followed by Type II
  - No more than 7 day lag between layers
  - No more than 2 consecutive segments at a time
  - Multiple segments per street contiguously
  - Placement of both Type III and Type II on many days to meet segment constraints
  - Detour required for each segment
  - 1 stockpile location for entire project
  - Application required to be complete by 1:30 PM on most streets
- Strict environmental controls
- Crack seal operations adjusted to reduce no parking regulations
- 30 Day notification to property owners of address affected
- 10 Day & 72 Hour notifications to actual occupant of address affected
- 48 hr and 7 day post sweeps required
- Specialty permitting process including:
  - 1 permit per segment of street (Bureau of Street Use and Mapping)
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- Agency approval required for each permit
- All information has to then be entered into a special “311 Towing” (SF 311 – Separate department from the Bureau of Street...) software program 72 hours in advance of the 72 hour notification

- All signage must entered into the agencies’ proprietary software prior to printing
- Local hiring and purchasing requirements as a percentage of the contract – this was difficult with a specialty treatment and trained employees that could not be replaced
- Cooperation with Muni Bus System to reroute buses and relocate pickups and drop-offs if bus routes were affected by closures
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Goals and Conclusion

In recent years, San Francisco has adopted and funded a forward thinking pavement preservation philosophy that elicits the goal of taking care of good pavements by placing the right treatment at the right time. This project is a prime example of the execution of that philosophy while still having minimal impact to the traveling public.

By placing Type II Micro in areas where only a wearing surface was needed and then using Type III covered by Type II in areas where additional structure was needed, the City received the best value for the funding available.

Based on the success of this project the use of multi layer systems has been expanded in the City. Case and point, there was an additional on-call project for 2015-2016, valued at $3.6 million dollars, bid in early 2015 that is ongoing..
Last but not least Telfer Highway Technologies worked with the City to complete a humanitarian project at the Mission Homeless Shelter. THT placed Seal Coat on the homeless shelter parking lot during the project. The parking lot application made the local news thereby helping to promote pavement preservation to the residents of the City/County.  
(See next page for pictures)