

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection

N829556178

<b>FACILITY:</b> SUPERIOR ASPHALT INC	<b>SRN / ID:</b> N8295
<b>LOCATION:</b> 6900 EAST PARIS INDUSTRIAL, CALEDONIA	<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> CALEDONIA	<b>COUNTY:</b> KENT
<b>CONTACT:</b> Jeff Kresnak , Owner	<b>ACTIVITY DATE:</b> 10/29/2020
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Compliance
<b>SUBJECT:</b> Unannounced, scheduled inspection.	<b>SOURCE CLASS:</b> SM OPT OUT
<b>RESOLVED COMPLAINTS:</b>	

**Staff, April Lazzaro arrived at the facility on Wednesday October 28<sup>th</sup> and Thursday October 29<sup>th</sup> for a two-fold purpose. One was to observe the scheduled stack testing, and the other was to conduct an unannounced inspection to determine compliance with Opt-out Permit to Install (PTI) No. 154-09A. The stack test observations have been entered into a separate report. (See MACES report N829556179)**

**A brief odor survey was conducted prior to my arrival, and no asphalt odors were identified off-site. I arrived on the facility property and parked in front of the office. I utilized all required PPE, including a face mask, and was told by the personnel in the office that I could head back to the plant as the stack test group was set up there. I wore a mask 100% of the time I was at the facility, and proper social distancing was practiced to the extent possible.**

**This report will cover multiple days wherein I spent time at the facility to conduct the compliance inspection and to observe the stack testing that was delayed multiple times. The first day of testing was postponed due to inclement weather. The second day of testing was postponed due to equipment failure. The equipment was repaired, and testing was successfully completed on the third day.**

**Upon my arrival on Wednesday, it was quite windy with the wind out of the northeast. I observed that the vehicular traffic was creating fugitive dust at a noticeable level. I discussed this with plant personnel and with Jeff Kresniak, who addressed the issue immediately.**

**Upon my arrival on Thursday, the yard had been swept and watered, and no fugitive dust was observed.**

## **FACILITY DESCRIPTION**

**Superior Asphalt is a hot mix asphalt plant (HMA), located at 6900 East Paris Industrial Court, Caledonia, MI. This plant was originally built in 2009, and recently underwent significant equipment replacement and a new Permit to Install No. 154-09A was issued on March 20, 2020. The new equipment includes a new, larger, asphalt drum mixer capable of**

processing up to 500 tons per hour, a new baghouse with a 15' taller stack, a new cold feed aggregate system and load-out emission controls.

This facility is also subject to the New Source Performance Standards (NSPS) found in 40 CFR Part 60 Subparts A & I. NSPS Subpart I, includes standards of performance for Hot Mix Asphalt Facilities.

Superior Asphalt has been the source of multiple odor complaints and has received Violation Notices for odors in previous operating years, however there were zero complaints for odors (or any issue) received for the 2020 operating year to date.

## **COMPLIANCE EVALUATION**

In 2020, two permits were in effect. PTI No. 154-09 was in effect until May 12, 2020 and PTI No. 154-09A which took effect on March 20, 2020. There was some overlap in the permit dates, as the existing permit was voided upon receipt of notice that the new equipment had been installed. I requested emissions and monitoring data required by the permit(s), and a review has been conducted. The evaluation of permit requirements will include the conditions of PTI No. 154-09A and will follow the permit format.

## **EUHMAPLANT**

This emission unit covers the aggregate conveyors, 500 ton per hour counter-flow-drum, liquid asphalt cement storage tanks, and hot mix asphalt paving material product storage silos.

### **Emission Limits**

Emission Limits have been established for the following pollutants:

PM, PM10, PM2.5, CO, SO<sub>2</sub>, NO<sub>x</sub>, lead, benzene, toluene, ethylbenzene, xylene, naphthalene, formaldehyde, acrolein, arsenic, nickel, H<sub>2</sub>SO<sub>4</sub> and manganese have hourly emission limits to be determined through stack testing. Of these pollutants, stack testing has been required to measure PM and NO<sub>x</sub> pursuant to NSPS Subpart I (results pending). Testing for the remaining pollutants has not been required by the AQD at this time, however it may be in the future.

CO is limited to a mass emissions rate of 89.9 tons per year on a 12-month rolling time period as determined at the end of each calendar month. Reported CO emissions for 12-month rolling time period ending in October 2020 is 42.92 tons.

### **Material Limits**

This HMA plant is currently equipped to burn only natural gas as fuel. Although other fuels are allowed by the permit, modifications to the

equipment would be necessary for that to take place. No asbestos containing waste is processed in the plant, and none was observed during the inspection.

The permittee shall limit the asphalt mixture processed in EUHMAPLANT to a maximum of 50% recycled asphalt product (RAP) material based on a monthly average. This limit was present in the permit during both the 2019 and 2020 seasons. During my discussions with Tony Stepek, the plant operator, the typical RAP content used in the HMA mix is 30%. During a records review, that included both the 2019 and 2020 season, I found that the highest RAP used based on a monthly average for 2019 was in April at 27.45%. The highest RAP used based on a monthly average in 2020 was in August at 41.64%. The second highest RAP value in 2020 was a monthly average of 27% which was in May.

The permittee shall not process more than 895,000 tons of HMA paving materials in EUHMAPLANT per 12-month rolling time period as determined at the end of each calendar month. This material limit did not change from the original permit to the new permit. A review of information provided indicates that Superior Asphalt processed 434,904 tons of HMA paving materials for the 12-month rolling time period ending October 2020. This is the highest 12-month rolling total throughput in the previous two years.

The permittee shall not process more than 500 tons of HMA paving materials in EUHMAPLANT per hour, based on a daily average, which shall be determined by dividing the daily HMA production by the daily operating hours. The highest amount of HMA processed based on a daily average during the 2020 season was 473.6 tons which occurred on October 14, 2020.

### **Process/Operational Restrictions**

The permittee shall not operate EUHMAPLANT unless the Fugitive Dust Control Plan (FDCP) as detailed in Appendix A, Preventative Maintenance Program (PMP) as detailed in Appendix B and the Emission Abatement Plan (EAP) as detailed in Appendix C have been implemented and maintained. I reviewed the information provided following my information request. It is noted that the recordkeeping for weather conditions and dust control application for the yard required by the FDCP is maintained on the Daily Production Log tab of the spreadsheet.

### **Appendix A- FDCP**

The requirements of the FDCP were evaluated related to activities conducted by facility staff. During my review I noted that there were only 5 days where dust control measures were conducted through the entire 2020 season. As previously indicated, I requested dust control measures upon

my arrival at the facility because fugitive dust was being generated by truck traffic moving raw materials.

Appendix A also addresses fugitive emissions from process equipment and fabric filter dust collector. I identified a concern regarding fugitive emissions from process equipment during the inspection. The area where aggregate materials (sand/stones) are fed into the drum via conveyor is called the slinger and is considered part of the transfer system. The slinger had a significant amount of sand being emitted as fugitive emissions.(see photos at end of report) Per my request, the facility will work with the drum manufacturer (Gencor) to evaluate whether improvements can be made in this area.

#### **Appendix B- PMP**

The PMP required by Appendix B was reviewed and includes maintenance and inspection activities for the asphalt load-out control system. The system consists of plexi glass sides that extend from the bottom of the silos to a minimum of five feet above the top of the road grade. I inspected the enclosure and found it to be acceptable and meets the criteria listed above and in the permit. At the top along each of the sides of the enclosure are five air intake areas where load-out emissions are captured adjacent to the associated HMA silo dispensing area which are ducted to a media-type filtration system that has a short rectangular stack. According to facility staff, the media filters have not been replaced this year, and per the PMP they are to be replaced annually. Photos of the enclosure and media filtration box are included at the end of this report. Daily visual inspection of the enclosure is conducted as part of the daily facility walk around and recorded on the Daily Production Log tab of the spreadsheet. It is recommended that the company make note in their records of the days where the twice annual media inspection is conducted. The unit is not equipped with a pressure drop gauge which would be a good addition to monitor system performance.

It is noted that the load out area and silos is visible to the operators, and any issues would be noticed immediately. During the inspection we discussed that the system appeared well engineered, however it was struggling to keep up with load out emissions due to the wind direction. It was noted by the operator that the system works very well, however today the wind speed was high and the wind direction atypical.

The PMP also includes operating parameters and inspection frequencies for the vapor condensation recovery system for the liquid asphalt storage tank. Per facility staff and the plan, there's not a lot of variables to monitor on this system and it is inspected daily. It is noted that this area is visible to the operator and they would likely notice an issue immediately. Superior

also continues to add odor suppressant to the liquid asphalt; a product named Ecosorb.

The PMP required Appendix B also contains a maintenance protocol for the baghouse. Per discussions with facility staff, they conduct a black light at the beginning of the season and also conducted one prior to the stack test. No issues were noted during the black light inspection prior to the stack test which was conducted on October 26, 2020. Since the new baghouse utilizes the same bags as the old one, Superior has many replacement bags on site in case bag replacement is necessary. A daily reading of baghouse pressure drop is recorded on the Daily Production Log tab of the spreadsheet. A review of the data indicates that the pressure drop can vary slightly day to day. Upon start up of the plant, with all new bags the pressure drop was right around 2.0" H<sub>2</sub>O, and never went above 3.1" H<sub>2</sub>O during the entire season. The average value for the season was 2.2" H<sub>2</sub>O.

### **Appendix C- EAP**

In response to my information request, the facility stated that there have been no malfunction stops (hot stop) during the 2020 season.

The permittee has maintained the efficiency of the drum burners to control CO emissions and are monitoring and recording emissions once every 500 hours as required. This data is maintained in the Maintenance Log spreadsheet on the CO monitoring data tab. The recorded information indicates compliance for the three readings taken during the 2020 season, at an average of 302 ppm, 283 ppm and 271 ppm respectively.

### **Design/Equipment Parameters**

The parameters established in the permit include satisfactory operation of the baghouse is defined as a pressure drop range between 2 and 10 inches of water column (" H<sub>2</sub>O). This condition allows for a deviation from this range if greater than 50% of the filter bags have been replaced, or other condition acceptable to the AQD. At start-up of the new plant, with 100% new bags the pressure drop was at 2.0" H<sub>2</sub>O, and there were a few times in the first month of operation that it dropped to 1.8" H<sub>2</sub>O which is acceptable.

### **Testing/Sampling**

For the 2020 season to date, there have been no odor complaints, and as such no odor threshold analysis has been requested. At this time, the AQD has not required additional testing of criteria pollutants or toxic air contaminants. The facility did conduct the NO<sub>x</sub> and PM emissions testing that is required by NSPS Subpart I. The NSPS Subpart I and the permit requires that testing was to be conducted within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of trial operation. Trial operation occurred on April 17, 2020 which would

have put the deadline for testing on October 17, 2020. The testing was conducted 14 days beyond the deadline, however at this time a violation notice will not be issued. Emissions test results are pending.

### **Monitoring/Recordkeeping**

Based on a thorough records review, it appears as though the facility is maintaining the proper records, which are maintained in the excel spreadsheet which was provided upon request.

The CO monitoring condition found in EUHMAPLANT Special Condition (SC) VI.3.c, appears to have a typographical error. This condition indicates there shall be data collection after every 500 hours / two weeks of operation. This contradicts the condition found in the Process/Operation Restrictions section of the permit, and the time frames do not correlate. At this time, there is no concern that the facility is not conducting CO monitoring every two weeks because it appears to be an error in the permit. If the facility wishes to correct this error, an administrative correction can be made following a PTI modification request from the company.

### **Reporting**

The permittee notified the AQD of the completion of the installation of equipment authorized by PTI No. 154-09A within the 30 day timeframe.

### **Stack/Vent Restrictions**

The stack was not measured at the time of the inspection, however during discussions with the company it was confirmed to have been installed at the required height.

### **EUYARD**

This emission unit includes requirements to implement the FDCP specified in Appendix B applies to the fugitive dust sources at the facility, including: Plant roadways, Plant yard, Material storage piles, Material handling operations (excluding cold feed aggregate bins)

Compliance with this portion Appendix B was discussed in the above section of this report. It was noted that only 5 days where dust control measures were conducted through the entire season. Additionally, I had to request dust control measures upon my arrival at the facility because fugitive dust was being generated by truck traffic moving raw materials.

The annual fugitive dust emissions are calculated and provided annually in the Michigan Air Emissions Report (MAERS). A review of the emission factor used in the 2019 MAERS submittal confirmed that it is accurate.

## **EUACTANKS**

**This emission unit includes requirements to implement the PMP as detailed in Appendix B. Compliance with this portion of Appendix B was discussed in the above section of this report. Per facility staff and the plan, there are not a lot of variables to monitor on this system, however it is inspected daily. It is noted that this area is visible to the operator and they would likely notice an issue immediately. Superior also continues to add odor suppressant to the liquid asphalt; a product called Ecosorb.**

## **EUSILOS**

**This emission unit includes the HMA paving material product storage silos and load-out control as detailed in Appendix B.**

**The load-out control has been installed and is operating and appears to meet all criteria of the requirements in this section as discussed in the above section of this report. The wind direction was out of the north on the day of the inspection, it is noted that typical prevailing winds are out of the west. The load-out area is north/south oriented which is appropriate to reduce the chance of issues affecting capture. As discussed in the above section of this report, the design of the load-out control enclosure included sides that extended to five feet above the top of the road grade at the entrance to the scale. Due to the reduced capture observed as a result of the atypical wind out of the north, I asked the facility if they had considered wind blocking for the entrance and exit points. At this point, the facility is not considering wind blocking, and will monitor operations during the 2021 season.**

## **FGFACILITY**

**This flexible group encompasses all previously identified emission units and associated control devices and establishes facility-wide emission limits for CO, individual hazardous air pollutants (HAP) and aggregate HAPs.**

**The facility is limited to 89.9 tons of CO on a 12-month rolling time period as determined at the end of each calendar month. As discussed in the above section of this report, reported CO emissions for 12-month rolling time period ending in October 2020 is 42.92 tons.**

**Each individual HAP is limited less than 8.9 tons per 12-month rolling time period as determined at the end of each calendar month. The highest reported individual HAP emissions are formaldehyde; and emissions for the 12-month rolling time period ending in October 2020 are 2.10 tons. Aggregate HAPs are limited to less than 22.5 tons per 12-month rolling time period as determined at the end of each calendar month. The reported**

aggregate HAP emissions for the 12-month rolling time period ending in October 2020 are 5.06 tons.

The reported emissions indicate compliance with the emission limits. The records are maintained in a satisfactory manner and were made available upon request.

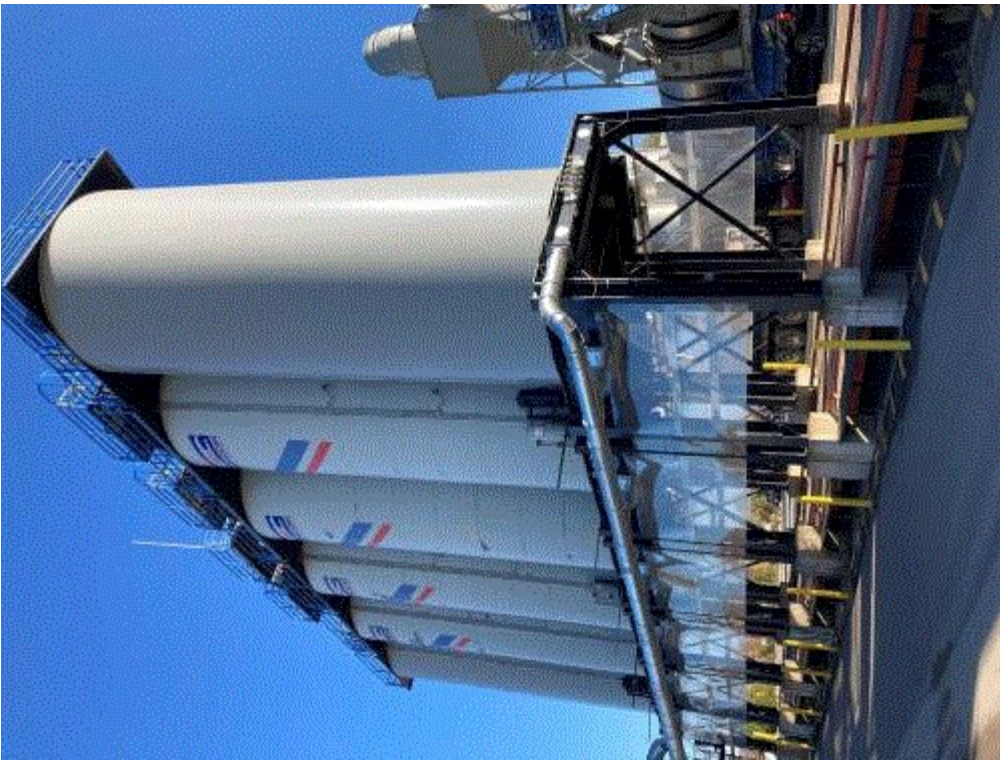
### **CONCLUSION**

Superior Asphalt, Inc. was in compliance at the time of the inspection.



**Image 1(Sand and aggregate)** : Accumulation of sand and aggregate from slinger.





**Image 2(Load-out Enclosure)** : Silo load-out enclosure with plexi-glass sides.



**Image 3(Media filtration box)** : Load-out control media filtration box.



**Image 4(Load-out stack)** : Load-out media filtration stack.



**Image 5(Yard fugitive dust)** : Fugitive dust observed from truck traffic.



**Image 6(Load-out) :** Load-out occurring with north wind and short truck (truck not pictured)

NAME April Lazzaro

DATE 11/24/2020

SUPERVISOR HH