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From:

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Date:

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Arcadis Project No.:

30042006 (30016352)

Subject:

Livonia Transmission Plant
36200 Plymouth Road, Livonia, Wayne County, Michigan
EGLE Site ID No. 82002970
Offsite Interim Preemptive Mitigation Installation Monthly Update

On behalf of Ford Motor Company (Ford), Arcadis of Michigan, LLC (Arcadis) has prepared this monthly update to the interim preemptive mitigation system installation for the Livonia Transmission Plant (LTP) site (the site) as requested by Michigan Department of Environment, Great Lakes, and Energy (EGLE) via email on May 26, 2019 and on July 26, 2019. Based on the groundwater data collected in the third quarter of 2019 from the shallow groundwater monitoring wells the 100-foot buffer line was modified. On November 13, 2019, EGLE sent Ford an email indicating that due to the 100-foot buffer line moving more to the north along Capitol, three (3) additional homes were added to the interim preemptive mitigation (IPM) program. As of January 31, 2020, the following progress has been made at 33 residential properties in the Alden Village subdivision:

- 33 of 33 IPM systems are designed, 26 of 33 are installed and operating as designed. The status of the remaining 7 are:
 - 1 of 33 IPM systems is installed but requires modification
 - 2 of 33 IPM systems are under construction
 - 2 of 33 IPM systems are scheduled to begin installation.
 - 1 of 33 IPM system installations is awaiting homeowner approval

- 1 of 33 current property owners is unwilling to allow the IPM systems to be installed at their properties
- 10 of 11 sheds requiring Retro-Coat™ have had it applied to the floor. The status of the remaining 1 is:
 - 1 of 11 property owners with sheds have not approved Retro-Coat™ application
- 10 of 16 detached garages requiring Retro-Coat™ have had it applied to the floor. The status of the remaining 6 are:
 - 3 detached garages will be completed during the spring/summer 2020
 - 3 detached garage owners have not approved Retro-Coat™ application

Arcadis continues to work diligently to coordinate and install the interim preemptive mitigation systems. Details are provided below for all 33 locations.

Interim Preemptive Mitigation System Currently Being Installed or Scheduled

Details are provided below regarding the status of the work at the individual properties.

- **34380 Capitol Avenue** – Arcadis conducted an additional site visit with the subcontractors on December 9, 2019 in preparation for the system install. During this visit the homeowner stated again that she did not want the work performed until Spring 2020. The IPM system design package was provided to the homeowner for review on December 17, 2019. Arcadis will continue to coordinate the installation of the mitigation system with the homeowner. An interim air purifier unit was deployed on November 20, 2019. At the request of the homeowner a second unit was deployed on November 22, 2019. Monthly vapor intrusion sampling was completed on December 9, 2019 and January 14, 2020. The December 2019 analytical data package was provided to all interested parties on January 29, 2020. Once the January 2020 results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **34424 Capitol Avenue** - An interim air purifier unit was deployed on November 21, 2019. Arcadis began construction of the IPM system on January 7 and installation will be completed in early February 2020.



34424 Capitol barrier installation



34424 Capitol plumbing repair

- **34450 Capitol Avenue** – An interim air purifier unit was deployed on November 20, 2019. The interim preemptive mitigation system design package was provided to the homeowner for review on December 17, 2019. Arcadis is working with the property owner's schedule to coordinate the installation of the mitigation system which at their request will begin the week of March 8, 2020.

- **12124 Boston Post** – The property owner declined an interim air purifier unit. Arcadis installed an interior crawl space access on January 15, 2020 at the homeowner's request. The application for the construction of the exterior crawl space entrances was submitted to the City of Livonia on January 9, 2020 and the permit was issued on January 21, 2020. The installation of the IPM system began on January 28, 2020.
- **34644 Beacon** - The property owner has stated he would allow the installation of the interim preemptive mitigation system, however, attempts to schedule the installation have been met with additional requests delaying the installation start date. A design visit was completed on November 14, 2019 and a revised design was sent to the property owner on November 22, 2019. On December 4, 2019 the homeowner requested that the crawl space entrance be enlarged. Arcadis and the subcontractor reviewed the size of the crawl space entrance and determined that it was similar in size to other entrances in the neighborhood where systems have been installed. Therefore, it does not require alteration to enable installation of the system. System installations have been designed to minimize structural modifications wherever possible. On January 14, 2020 the homeowner requested a detailed sequencing of how the system will be installed. This was provided to the property owner on January 22, 2020. On January 23, 2020 the homeowner stated that before the installation could proceed, he would need to have the crawl space entrance enlarged so that the entrance was large enough for himself to enter the crawl space. The homeowner stated he is not sure when he will have time to arrange this modification to his crawl space entrance and he will not schedule the installation at this time. On January 28, 2020 Arcadis notified the property owner that as part of the installation of the system, Arcadis would enlarge the entrance. On January 29, 2020 Arcadis met with the homeowner with the crawl space access door to request his approval and discuss the crawl space door installation. Unfortunately, due to the concrete slab situated at the base of the existing crawl space entrance, a new crawl space entrance needs to be installed. The homeowner has granted approval for Arcadis to move forward with the permit application with the City of Livonia for the crawl space entrance however he has not yet committed to a start date for the installation. Arcadis will continue to work with the property owner to schedule the installation of the interim preemptive mitigation system.

Interim Preemptive Mitigation Systems Operating as Designed

- **12088 Brewster** – The system is currently in routine operation and maintenance. The first routine semi-annual Operation, Maintenance, and Monitoring (OM&M) monitoring event is scheduled to be completed on February 3, 2020 and will include the final routine indoor air sampling event.

Per the Arcadis memo titled "Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces" dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted on Monday January 13, 2020. At the request of the homeowner an additional inspection of the crawl space was performed on January 27, 2020, no water was observed.

- **12075 Brewster** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M monitoring event is scheduled to be completed on February 3, 2020 and will include the final routine indoor air sampling event.

Per the Arcadis memo titled "Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces" dated June 28, 2019, Arcadis conducted an inspection of the crawl space.

The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. Approximately 75 gallons of water was observed and removed during the inspection, which was conducted on Tuesday, January 14, 2020. Arcadis performed an additional inspection on January 24, 2020 and completed initial liner repairs. Arcadis will return to complete liner repairs once the water level recedes.

- **12089 Boston Post** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 15, 2020 along with the first routine semi-annual OM&M monitoring event. Sub-slab monitoring point SSMP-4 was not accessible for monitoring, however, all other sub-slab monitoring points met the performance metric established by EGLE of -0.02 in water column (wc). The Retro-Coat™ in the detached garage floor was inspected, and no damage was observed. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis contacted the homeowner requesting to inspect the basement. From January 10, 2020 to January 12, 2020 there was approximately 2.56 inches of precipitation. On January 13th, the homeowner reported that there was no water in the basement and that he did not hear water in the mitigation system during the rain event. During an O&M inspection conducted on January 15, 2020, no water was reported within the mitigation system and system performance was not impacted.

- **34450 Beacon** - The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 6, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. Approximately 100 gallons of water was observed and removed during the inspection, which was conducted on Monday, January 13, 2020. Arcadis will return to complete liner repairs if necessary once the water level recedes.

- **34401 Capitol** –The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 13, 2020 along with the first routine semi-annual OM&M monitoring event. This event was completed following a heavy rainfall, and a reduced vacuum level was measured at Monitoring Point MP-1 of -0.005 in wc. The vacuum level at the other monitoring point, MP-2 continued to exceed the performance metric established by EGLE of -0.02 in wc. An additional monitoring event will be completed in February 2020 to re-monitor the vacuum level at MP-1 and make any repairs to the system or liner, as needed. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. Approximately 11 gallons of water was observed and removed during the inspection, which was conducted on Monday, January

13, 2020. Minor leaks were observed through a seam by the crawl space access and the liner/seam was patched following water removal.

- **34380 Beacon** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M monitoring event will be scheduled with the property owner to be completed during the first quarter of 2020 and will include the final routine indoor air sampling event.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted on Monday January 13, 2020.

- **12091 Brewster** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 22, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Arcadis has contacted the homeowner on multiple occasions and the homeowner continues to deny access to mitigate the detached garage. Arcadis will continue to inquire with the homeowner regarding gaining access to mitigate the garage. The garage is not inhabited or occupied at this time and is primarily used to store a motorcycle and vehicle. In addition, three rounds of vapor intrusion sampling have been completed to date, and there have been no exceedances of the seven constituents of concern (COCs) for indoor air or sub-slab soil gas in the garage or home. During the OMM/sampling event on January 23, 2020, Arcadis asked the homeowner again about access to the garage for the application of Retro-Coat™. The property owner is reconsidering allowing access to the detached garage to have Retro-Coat™ applied later in the fall of 2020. Arcadis will continue to work with the homeowner to arrange access for the retro coat application in the spring of 2020.

Water has not been observed in the crawl space at this location. However due to the proximity to the standing water in the neighbor’s yard after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period the homeowner was contacted. No water was reported by the homeowner nor was any water was observed during the inspection, which was conducted on Monday January 13, 2020.

- **34424 Beacon** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 8, 2020 along with the first routine semi-annual OM&M monitoring event. On January 10, 2020 an additional sub-slab monitoring point (SSMP-3) was installed in the NE corner of the back sunroom to monitor vacuum influence. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **34920 Beacon** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M monitoring event is scheduled to be completed on February 24, 2020 and will include the final routine indoor air sampling event.

- **34950 Beacon** – The system is currently in routine operation and maintenance. The final routine OMM sampling event was completed on January 29, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **12017 Brewster** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 2, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **34600 Beacon** – The system is currently in routine operation and maintenance. The final routine OM&M sampling was completed on January 14, 2020 along with the first routine semi-annual OM&M monitoring event. The IPM at this property consists of Retro-Coat™ vapor intrusion coating applied in the basement and attached garage and sump depressurization. The IPM was inspected for damage, and no damage was observed. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **12131 Boston Post** –The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 20, 2020 along with the first routine semi-annual OM&M monitoring event. The Retro-Coat™ was inspected in the shed, and no damage was observed. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

A vacuum transmitter was installed at crawlspace sub-membrane monitoring point MP-4 on November 11, 2019 to continuously monitor vacuum levels and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. The other five sub-membrane monitoring points and two sub-slab monitoring points installed at this property all are maintaining a stronger vacuum influence. The data logged to date by the vacuum transmitter is presented below. All logging data demonstrates that vacuum is continuously being maintained and that the system continues to operate effectively.



- **12101 Brewster** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 20, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02

in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted on Monday January 13, 2020.

- **12067 Boston Post** –The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 6, 2020 along with the first routine semi-annual OM&M monitoring event. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

A vacuum transmitter was installed at sub-membrane monitoring point MP-1 on August 28, 2019 to continuously monitor vacuum levels and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. Note that system adjustments were performed prior to the installation of the transmitter at MP-1, however -0.020 in wc was not able to be continuously maintained. The other three sub-membrane monitoring points installed at this property all meet the performance metric established by EGLE of -0.02 in wc. The data logged to date by the vacuum transmitter is presented below. All logging data demonstrates that a strong vacuum is continuously being maintained MP-1 and that the system continues to operate effectively.



- **34550 Beacon** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M event is scheduled to be completed on February 17, 2020 and will include the final routine indoor air sampling event.
- **34940 Beacon** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M event will be scheduled with the property owner to be completed during the first quarter of 2020 and will include the final routine indoor air sampling event.
- **12141 Boston Post** – The interim preemptive mitigation system was installed as designed and has been in operation since April 9, 2019 for both the home and the attached garage. On September 6, 2019 a vacuum transmitter was installed at monitoring point MP-4, which has the lowest measured vacuum influence.

Thus far, performance metrics have not been collected for the interim preemptive mitigation system within the slab on grade portion of the home. Monitoring points have not been installed in the finished spaces (e.g., through carpeted and/or finished floors) per the property owner's request. The following information is provided in response to the November 18, 2019 letter from EGLE. The property owner's denial of the monitoring point installation is documented in the October 24, 2018 and March 29, 2019 field notes. On November 25, 2019 Arcadis inquired again about the possibility of installing a sub slab monitoring point in the northwest corner of the living room and in the northeast corner of the dining room. On December 13, 2019, Arcadis contacted the property owner again to install the sub-slab monitoring points in the northwest corner, but the homeowner responded via text, "absolutely not". On January 30th, 2020, Arcadis approached the homeowner and explained that EGLE is requiring the installation of the monitoring point. The homeowner stated he would think about it.

In addition, post mitigation sampling was completed on October 25, 2019 demonstrating the effectiveness of the mitigation system. The post-mitigation indoor air sample collected on that date was located directly in the slab on grade area of the home where monitoring of the differential pressure generated by the mitigation system is not being allowed by the homeowner. The analytical data package was provided to all parties consistent with the access agreement on November 25, 2019. The results of the sampling show that there are no exceedances of indoor air criteria within the home, and therefore demonstrate the effectiveness of the mitigation system. Indoor air sampling will be continued at this location on a semi-annual basis to demonstrate on-going effectiveness of the mitigation system.

The system is currently in routine operation and maintenance. The final routine OM&M sampling event (indoor air sampling as described above to continue to demonstrate effectiveness of the mitigation system in the portion of the home that is not being monitored for sub-slab vacuum influence) was completed on January 2, 2020 along with the first routine semi-annual OM&M monitoring event. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement. Monitoring Point MP-4 was measured at -0.004 in wc, and the other 3 sub-membrane monitoring points had a stronger vacuum influence (MP-1 = -0.016 in wc; MP-2 = -0.007 in wc; MP-3 = -0.011 in wc). The sub-slab monitoring point, SSMP-1, located in the attached garage had the strongest vacuum influence at -0.025 in wc. The data logged by the vacuum transmitter connected to MP-4 is presented below. All logging data demonstrates that vacuum is continuously being maintained and that the system continues to operate effectively.



- **12066 Boston Post** - The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 6, 2020 along with the first routine semi-annual

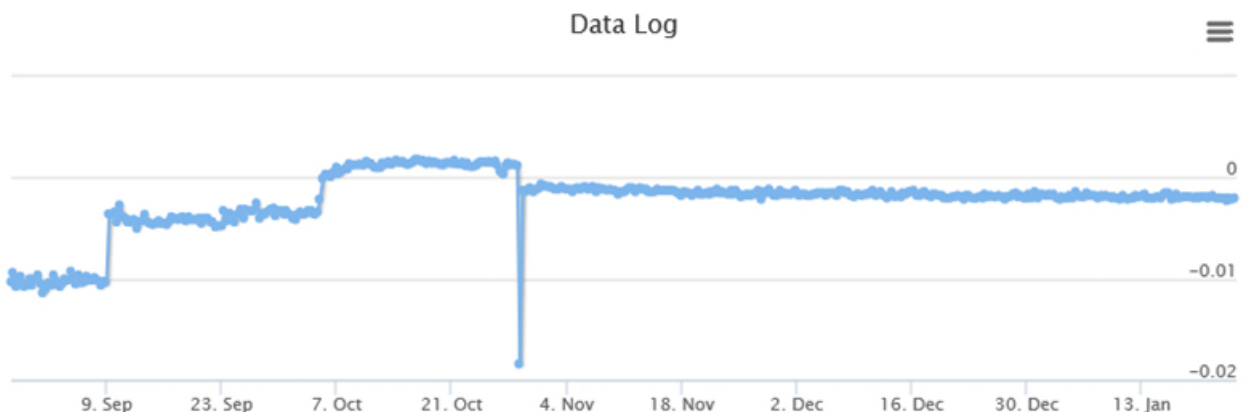
OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled "Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces" dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted on Monday January 13, 2020.

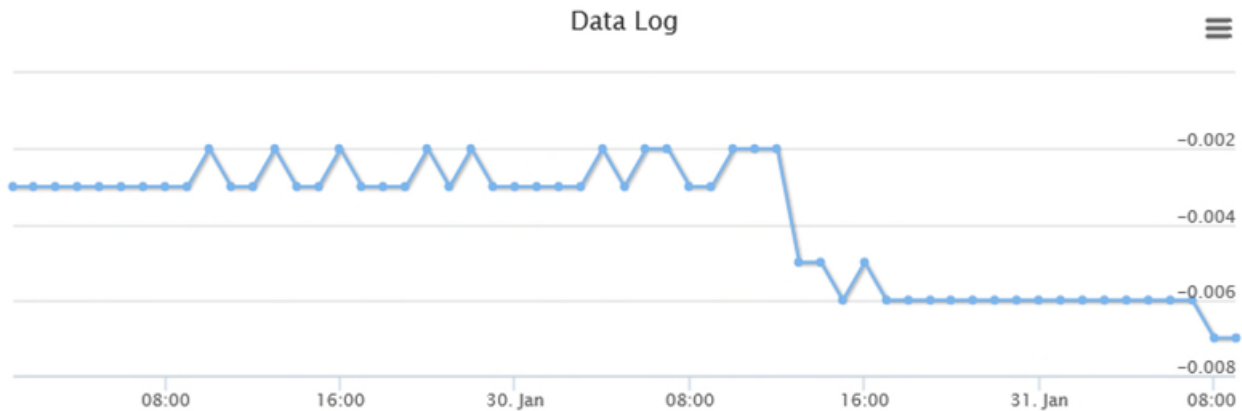
- **12036 Brewster** - The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 28, 2020 along with the first routine semi-annual OM&M monitoring event. The Retro-Coat in the basement™ was inspected, and no damage was observed. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

Per the Arcadis memo titled "Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces" dated June 28, 2019, Arcadis contacted the homeowner to inquire about water in the basement. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted by the homeowner on Tuesday January 14, 2020.

A vacuum transmitter was installed at sub-slab monitoring point SSMP-2, located in the attached garage, on August 7, 2019 to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. The other four sub-membrane monitoring points installed at this property are all maintaining a stronger vacuum influence. The data logged to date by the vacuum transmitter is presented below. The logging data demonstrates that vacuum is continuously being maintained except during a period between October 5, 2019 and October 29, 2019. Note that SSMP-2 was repaired on October 29, 2019, resolving a loose connection that had been affecting data logged prior to that date.

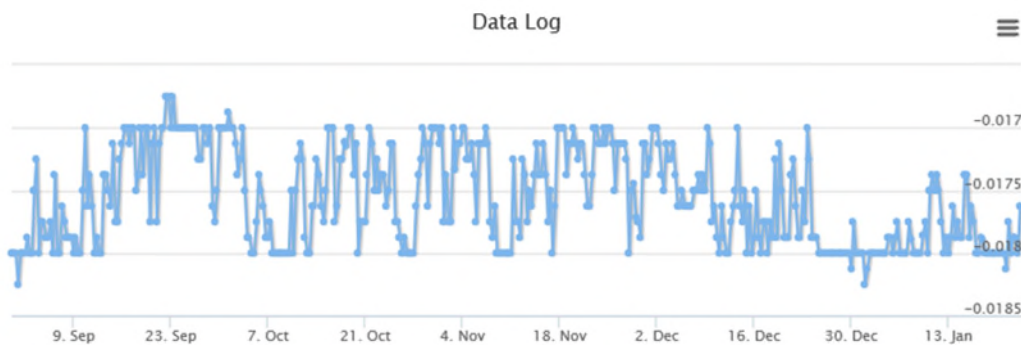


Additionally, on January 30, 2020 SSMP-2 was replaced and the system valves were adjusted to optimize system performance as demonstrated in the logging data presented below. Vacuum is continuously being maintained, and the system continues to operate effectively.



- 34990 Beacon** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event will be scheduled with the property owner in the first quarter of 2020. The property owner has initially denied the application of Retro-Coat™ in the detached garage, since the floor has an existing epoxy coating. Arcadis met with the property owners on January 30, 2020 to discuss the rebuild of the basement. During that conversation Arcadis explained again that EGLE is requiring the mitigation of the detached garage. The homeowner stated they would consider the application of Retro-Coat™ in the spring of 2020. On January 31, 2020 the property owners provided the name of the product which was applied to the detached garage. The product is called PremierGarage®. The homeowner requested that Arcadis and EGLE review this product and accept it in lieu of the Retro-Coat™. Arcadis will contact the manufacturer to determine if Premier Garage can be considered as an equivalent to RetroCoat. In addition, four rounds of indoor air sampling have been completed, and there have been no exceedances of constituents of concern.

A vacuum transmitter was installed on August 28, 2018 at Monitoring Point MP-7 to continuously monitor vacuum levels and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. Note that system adjustments were incorporated on August 22, 2019, and the vacuum level at MP-7 has been optimized to the extent possible. The other six sub-membrane monitoring points installed at this property all meet the performance metric established by EGLE of -0.02 in wc. The data logged to date by the vacuum transmitter is presented below. All logging data demonstrates that a strong vacuum is continuously being maintained at MP-7 and that the system continues to operate effectively.



On November 26, 2019, Arcadis met with Matt Williams from EGLE to discuss the reinstallation of drywall at this property that will be covering basement walls that have been mitigated through the application of Retro-Coat™. Per that discussion, Arcadis has added a water sensor to the design, to be

installed behind the new drywall. The sensor will be wired to the existing control panel, which will notify Arcadis of an alarm condition. Three access panels will also be installed within the drywall to provide access for visual inspections as needed. The revised draft design was provided to the homeowner on December 17, 2019. A meeting was held with the homeowner on January 16, 2020. The reconstruction of the basement is scheduled to begin in February 2020.

- **34591 Beacon** – The system is currently in routine operation and maintenance. The first routine semi-annual OM&M monitoring event is scheduled with the property owner to be completed on February 19, 2020 and will include the final routine indoor air sampling event.

Per the Arcadis memo titled “Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces” dated June 28, 2019, Arcadis conducted an inspection of the crawl space. The inspection was completed after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. No water was observed during the inspection, which was conducted on Monday January 13, 2020.

A vacuum transmitter was installed on September 16, 2019 at sub-slab monitoring point SSMP-1 to continuously monitor vacuum levels and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. Final monitoring point readings, after making system adjustments were of the following: SSMP-1: -0.008 in wc, MP-1: -0.010 in wc, MP-2: -0.008 in wc, and MP-3: -0.022 in wc. Additional system adjustments may be made during future O&M events to further balance flow and resume operation at higher vacuum levels at the crawlspace monitoring points.

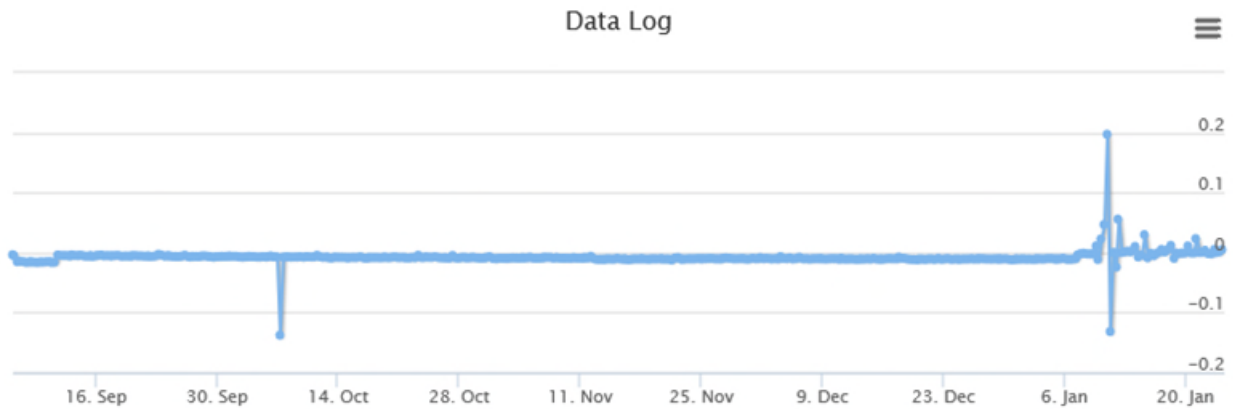
A non-routine OM&M event was completed on January 24, 2020 and a reduced vacuum level was measured at Monitoring Points MP-1 (-0.005 in wc) and MP-2 (-0.002 in wc). The vacuum level at the other sub-membrane monitoring point, MP-3 remained stronger than the vacuum being logged at SSMP-1. Arcadis will monitor the vacuum levels at MP-1 and MP-2 during the event scheduled in February and will make any repairs as needed. The data logged to date by the vacuum transmitter is presented below. All logging data demonstrates that vacuum is continuously being maintained and that the system continues to operate effectively.



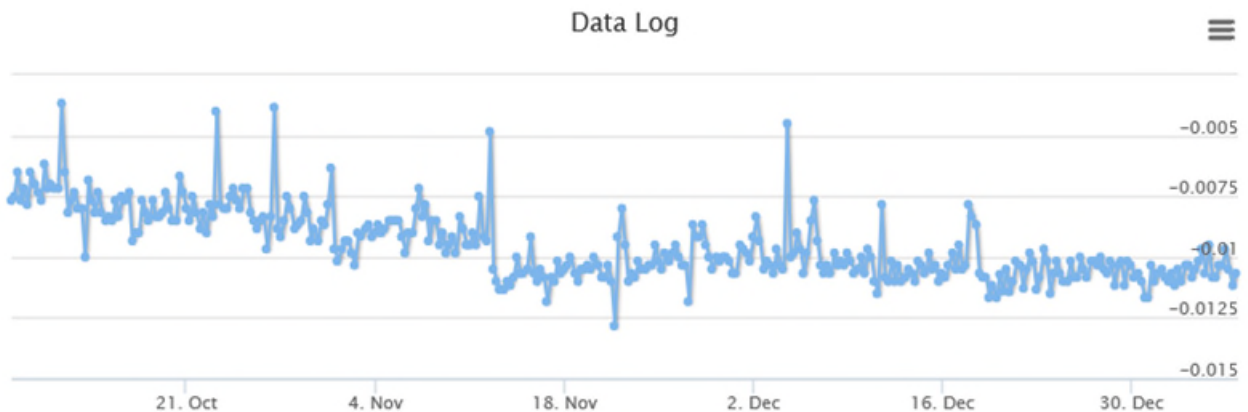
- **34367 Capitol** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 31, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

- **34480 Capitol** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event for the first quarter of 2020 was completed on January 7, 2020 along with the first routine semi-annual OM&M monitoring event. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.

A vacuum transmitter was installed on September 5, 2019 at SSMP-2 to continuously monitor vacuum levels and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -0.02 in wc. The other three sub-membrane monitoring points installed at this property are all at an equivalent or stronger vacuum influence. The data logged to date by the vacuum transmitter is presented below.



A higher resolution view of the data logged between October 8, 2019 and January 6, 2020 is presented below demonstrating the vacuum influence and effective operation of the system. The timing of the transmitter beginning to log erratic data coincides with the January 7, 2020 OM&M event. A subsequent OM&M event is being scheduled to troubleshoot the cause of this data anomaly.

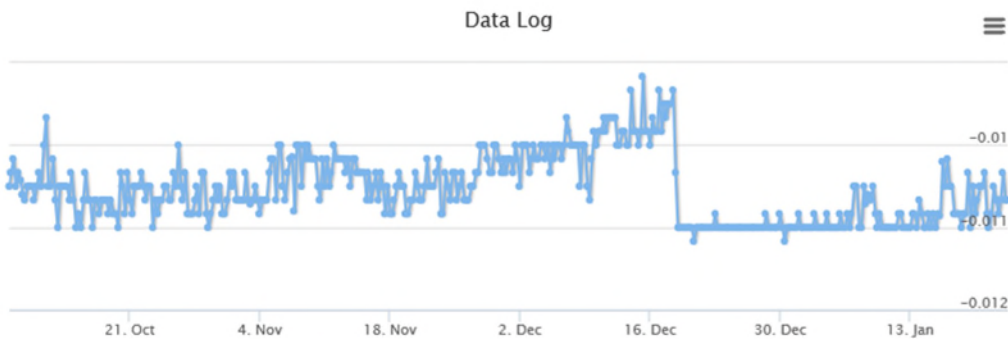


- **12070 Boston Post** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event was completed on January 28, 2020 along with the first routine semi-annual OM&M monitoring event. All monitoring points met the performance metric established by EGLE of -0.02 in wc. Once the analytical results have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement.
- **34682 Beacon** - The system is currently in routine operation and maintenance. Post mitigation sampling was conducted in the garage and the home during the week of December 16, 2019. Once the results

have been reviewed and validated, the data package will be submitted to all parties as outlined in the access agreement. The first routine semi-annual OM&M monitoring event will be scheduled with the property owner to be completed during the first quarter of 2020 and will include the final routine indoor air sampling event.

Per the Arcadis memo titled "Regarding Email received on 5/26/2019- Long term solution to address flooding in crawl spaces" dated June 28, 2019, Arcadis contacted the homeowner to schedule an inspection of the crawl space. The inspection was requested after the rain event on Friday, January 10 through Sunday, January 12, 2020, when over 1 inch of rainfall was recorded within a 24-hour period. The homeowner denied access to Arcadis but reported that no water was observed on Wednesday January 15, 2020.

A vacuum transmitter was installed on September 7, 2019 at MP-5 to continuously monitor vacuum levels and to confirm that vacuum is being maintained. The vacuum level was less than the performance metric established by EGLE of -0.02 in wc. at sub-membrane monitoring points MP-4 and MP-5 and at sub-slab monitoring point SSMP-4. The transmitter was installed at MP-4 due to the homeowner's preference to install the transmitter at a monitoring point within the crawlspace rather than in the finished living area. The other three sub-slab monitoring points installed at this property are all maintaining stronger vacuum influence as demonstrated by the data collected on September 18, 2019: SSMP-1: -0.107 in wc, SSMP-2: -0.053 in wc, SSMP-3: -0.073 in wc, SSMP-4: -0.007 in wc, SSMP-5: -0.022 in wc, MP-4: -0.013 in wc, and MP-5: -0.009 in wc. The data logged by the vacuum transmitter since October 8, 2019 is presented below. Data previous to that was excluded from the graph due to spikes of high vacuum that reduced the resolution of the rest of the data. All logging data demonstrates that vacuum is continuously being maintained and that the system continues to operate effectively.



Interim Preemptive Mitigation System is Installed but Requires Modification

Mitigation systems at 1 of the 30 properties require additional mitigation activities. Details are provided below regarding the status of the work at this property.

- **12100 Boston Post** – An interim preemptive mitigation system was installed as designed and has been in operation since March 25, 2019. Post mitigation sampling was completed on May 3, 2019. The analytical data package was provided to all parties consistent with the access agreement on July 13, 2019.

A vacuum transmitter was installed on the monitoring point located in the attached garage addition on May 4, 2019 to continuously monitor vacuum levels at SSMP-04 and to confirm that vacuum is being maintained since the vacuum level was less than the performance metric established by EGLE of -

0.02 in wc. Additional monitoring is scheduled to be completed during the first quarter of 2020. The data logged to date by the vacuum transmitter is presented below. All logging data demonstrates that vacuum is continuously being maintained at SSMP-4.



On June 11, 2019, sub-slab monitoring point SSMP-02 (located in the slab addition) was measured at -0.002 in wc. However, both of the sub-membrane monitoring point (MP-1 and MP-2) and the sub-slab monitoring points in the attached garage (SSMP-01 and SSMP-03) meet the performance metric established by EGLE of -0.02 in wc. Arcadis contacted the property owner on a weekly basis throughout September inquiring on their availability to gain access for a HVAC professional to investigate the duct system and to conduct further system evaluations. On September 23, 2019, and October 26, 2019 Arcadis performed additional evaluations of the system performance within the raised portion of the home. Air leakage was observed to be occurring behind the finished building materials, limiting vacuum propagation. The carpeting was pulled back, and this area was sealed to the extent possible from inside the living room and a second sub-slab suction point was installed from inside the crawlspace. Valve adjustments were also made to force more air to be extracted from the raised slab area, however this resulted in sub-slab soil being pulled into the system, so the valves were readjusted to prevent this. Arcadis has contacted the property owner monthly to propose additional sealing of the exposed exterior foundation to reduce air leakage and is working with the homeowner to schedule the completion of this task during favorable weather conditions.

The homeowner has denied application of Retro-Coat in the shed located on the property due to the unsafe condition of the shed for occupancy. Arcadis will evaluate the condition of the shed during each routine semi-annual OM&M event. At such time that the shed is deemed safe for occupancy, the application of Retro-Coat will again be proposed to the homeowner. The first routine OM&M event is scheduled to be completed on February 11, 2020.

Interim Preemptive Mitigation Systems Declined – Extension Requested

- 12121 Boston Post** –The property owner was presented with an air purifier on March 21, 2019 as part of the initial preemptive mitigation approach. The air purifier remained on the front porch until March 24, 2019, when an Arcadis employee retrieved the unit. The air purifier was retrieved from the location, so damage did not occur to the unit from being outside and exposed to the weather. The draft design for the preemptive mitigation system was provided on March 29, 2019. On April 16, 2019, the property owners sent an email indicating that Ford nor Arcadis had access to the property any longer. A complaint was filed on July 10, 2019 in the Michigan state court to gain access to this home to complete the installation of the interim preemptive mitigation system.

MEMO

The suit seeking access to the property at 12121 Boston Post was removed by those property owners to federal court. Ford moved to remand that lawsuit to state court and it was remanded on January 7, 2020. Ford will continue to pursue access through that proceeding in state court. The property owners at 12121 Boston Post are the only remaining property owners currently refusing to allow the mitigation systems to be installed at their properties

In the July 26, 2019 letter EGLE requested an update for the property located at 12034 Brewster. On April 19, 2019, Arcadis provided EGLE documentation based on groundwater data that had been collected from a newly installed shallow monitoring well MW-192S. Monitoring well MW-192S analytical results showed no presence of vinyl chloride or any other constituent of concern. Based upon that data the 100-foot buffer was moved to the north. Subsequently, 12034 Brewster no longer resided in the 100-foot buffer; therefore, the installation of the interim preemptive mitigation system was put on hold. Although the interim preemptive mitigation system installation was put on hold vapor intrusion sampling continues.

Arcadis continues to work diligently to continue to schedule the additional work at 12100 Boston Post and to complete the installation of the interim preemptive mitigation systems at the three remaining properties (34380 Capitol, 34450 Capitol, and 34644 Beacon). Arcadis will continue to coordinate and complete OM&M activities as necessary to evaluate the performance of the operating preemptive mitigation systems.