Environmental Quality Office
Sustainability, Environment & Safety
Engineering

Ford Motor Company
Fairlane Plaza North
290 Town Center Drive, Suite 800
Dearborn, MI 48126

November 19, 2021

Ms. Jeanne Schlaufman
Environmental Quality Specialist
Warren District Office
Remediation and Redevelopment Division
Department of Environment, Great Lakes, and Energy
27700 Donald Court
Warren, Michigan 48092-2793
SCHLAUFMANJ1@michigan.gov
VIA E-MAIL

Ms. Schlaufman:

Thank you for your letter dated November 9, 2021, which was transmitted to Ford Motor Company ("Ford") the following day. With this letter, Ford seeks to (a) acknowledge receipt of your letter; (b) provide background regarding work Ford has conducted since 2019 relevant to the issues discussed in your letter; and (c) explain what work Ford has planned in the coming weeks.

Ford has been investigating certain utility corridors near its Livonia Transmission Plant ("LTP") since 2019 – consistent with the requirements of the Consent Decree and with regular and routine guidance from your predecessor, Brandon Alger. Ford's work has been science-driven and conducted transparently.

Key documents pertaining to Ford's utility corridor investigation, and the dates EGLE approved them, include the following:

- *Response Activity Plan – Utility Corridor Evaluation Revised,* submitted on February 11, 2020, and approved by EGLE on March 5, 2020.
- *Response Activity Plan Addendum,* submitted on December 4. 2020 and approved by EGLE on December 11, 2020.
- *Response Activity Plan Addendum #2,* submitted on January 27, 2021, and approved by EGLE on February 18, 2021.

A timeline recounting the substance of this work is attached to this letter as Exhibit A. Since Response Activity Plan Addendum #2 was approved, Ford's work has continued under EGLE supervision, with meetings conducted on essentially a bi-weekly basis since February 26th. During these meetings, Ford's work and overall approach has been developed with input from EGLE. Ford is preparing a packet of materials to supplement the administrative record to

reflect Ford's efforts and our ongoing engagement with EGLE under the Consent Decree, and specifically those related to the utility corridor investigation including EGLE's approval of those efforts. The materials will demonstrate Ford is in compliance with the Consent Decree.

Let me take an opportunity to address some of the concerns raised in your letter regarding the sewer system. Ford has conducted substantial work to address risks of contamination to the sewer system and has plans for additional work going forward. Ford has focused on removing the possibility that LTP-related contamination reaches the sewers at all. And, as of today, these efforts appear to be successful. This work has included rehabilitating 4,500 linear feet of pipe and nine manholes and installing new treatment systems. At the same time, Ford has worked to investigate and characterize potential downstream impacts in the sewershed even though Ford's on-site work has substantially decreased exceedances in the sewers (see Figures 1 and 2 in Exhibit A) and Ford consultants are returning to the field this month for additional data. To put as fine of a point as possible on one issue raised in your letter, the extent of sewer-related contamination should be known after the next round of planned sampling. Ford is planning future work depending on what the next round of sampling data shows and we will outline this work in detail in our formal response to your letter.

Before closing, Ford disputes those portions of your letter which imply that Ford has not acted appropriately in addressing issues addressed by the Livonia Consent Decree. Ford has been conducting work since 2015 to address LTP-related issues and – in the six years since – Ford has both complied with its obligations and worked to address any concerns raised by residents, the City of Livonia, or EGLE with appropriate urgency applying sound technical solutions.

Ford unequivocally denies that it has failed to comply with the Consent Decree, including throughout its work pursuant to the EGLE-approved utility corridor Response Activity Plans. Ford has complied and will continue to comply with the Consent Decree. And it will continue to work productively with EGLE pursuant to the Consent Decree's requirements. To that end, Ford will provide a comprehensive response within 30 days of your November 9 letter, as requested.

If you have any questions, please feel free to contact me.

Sincerely,

Todd M. Walton
Manager, Global Site Assessment & Remediation

Attached: Exhibit A – Arcadis Memo dated November 19, 2021 from Kris Hinskey, *Response to EGLE – Sewer Investigation and Impact to Utility Corridors – Vapor Mitigation - Livonia Transmission Plant (LTP)*

cc: Mr. Kris Hinskey, Arcadis
Mr. Aaron Cooch, DHHS
Ms. Alexandra Rafalski, DHHS
Ms. Cyndi Mollenhour, EGLE
Mr. Paul Owens, EGLE
Ms. Beth Vens EGLE
Mr. Matthew Williams, EGLE
Ms. Krista Reed, EGLE

MEMO

ARCADIS Design & Consultancy for natural and built assets

To:
Todd Walton
Ford Environmental Quality Office

Copies:
Mr. Larry Merritt, Ford
Mr. Bill Grier, Ford
Mr. Rob Ellis, Arcadis of Michigan, LLC

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241

From:
Kris Hinskey

Date:
November 19, 2021

Arcadis Project No.:
30080642

Subject:
Response to EGLE – Sewer Investigation and Impact to Utility Corridors – Vapor Mitigation - Livonia Transmission Plant (LTP) –
36200 Plymouth Road, Livonia, Wayne County
Consent Decree No 2:1712372-GAD-RSW (CJ)
Site ID No.: 82002970

On behalf of Ford Motor Company (Ford), this memo has been prepared by Arcadis of Michigan, LLC (Arcadis) for the Livonia Transmission Plant (LTP) site (the site). This memo provides a response to the November 9, 2021, letter from the Michigan Department of Environmental, Great Lakes, and Energy (EGLE). In the November 9, 2021, letter EGLE requested additional investigation offsite related to the sanitary sewer that runs west to east on Plymouth Road and north and south on Stark Road. The response letter details the correspondences between Ford, EGLE, and Arcadis throughout 2021 and highlights progress on multiple phases of investigation, rehabilitation, and mitigation activities undertaken by Ford to proactively protect human health and the environment. A separate more detailed submittal to document activities, analysis, and results related to this effort is being prepared and will be submitted within 30 days of the November 9 letter from EGLE.

The investigation of the utility corridor has been conducted under the guidance of EGLE and in conjunction to the following Response Activity Plans (RespAP).

- *Response Activity Plan – Utility Corridor Evaluation Revised,* submitted on February 11, 2020, and approved by EGLE on March 5, 2020.

- *Response Activity Plan Addendum,* submitted on December 4. 2020 and approved by EGLE on December 11, 2020.
- *Response Activity Plan Addendum #2,* submitted on January 27, 2021, and approved by EGLE on February 18, 2021.

Since the submittal of the Utility Corridor (UC) RespAP Addendum #2, the following activities and correspondences have been conducted between EGLE, Ford, and Arcadis related to the assessment.

- February 26, 2021 – Meeting was conducted via Microsoft Teams (Teams) with EGLE, Ford, and Arcadis to discuss the approval letter for the RespAP Addendum #2, discuss the modification request in the addendum #2 letter received on February 18, 2021, and to discuss the post vapor and liquid sampling event once the onsite sanitary sewer cleaning was to be completed.
- March 10, 2021 – Ford and Arcadis performed preemptive cleaning and closed-circuit television (CCTV) of the onsite sanitary sewers and laterals.
- On May 5, 2021, Arcadis submitted on behalf of Ford an update memo summarizing results for samples collected onsite and offsite related to the sanitary sewer.
- June 4, 2021 – A meeting was conducted via Teams between Ford, EGLE, and Arcadis to discuss the June 2, 2021, letter from EGLE. The meeting centered around the requests made by EGLE in the letter and to discuss the deadlines that were identified in the letter. EGLE agreed that neither a workplan nor the 30-day submittal was necessary. EGLE agreed that the 30-day workplan was an inefficient mechanism to the investigative sampling and continued evaluation of the onsite sanitary condition assessment. As a result, Ford and Arcadis recommended bi-weekly meetings to facilitate an open communication and update of the sanitary sewer assessment. EGLE agreed and coordinated the meetings, which have occurred bi-weekly from June through November 2021.
- On July 2, 2021, Arcadis submitted on behalf of Ford an update memo summarizing results for samples that were collected onsite and offsite related to the sanitary sewer.
- July 12, 2021 – Cleaning began within the onsite sanitary sewer system in preparation of rehabilitation and to identify cracks or structural defects in both the mainlines and connecting manholes and sampling was conducted within the Sanitary Sewer, as discussed with EGLE.
- June 18, 2021 – A meeting was conducted via Teams to discuss the results of the Stark Road vapor and liquid samples. Additional delineation was requested by EGLE to define the extent of the vapor in the offsite sanitary line. Ford also notified EGLE that the offsite sanitary sewers along Plymouth up to Stark Road were being cleaned and laterals would be identified and documented. The cleaning and CCTV of 1900 linear feet of off-site sewer was completed on June 23, 2021.
- July 2, 2021 – A meeting was conducted via Teams to discuss the current and proposed additional sanitary sewer sampling. The sampling event, which occurred on July 13, 2021, included vapor and liquid samples and laboratory analysis to delineate the initial sanitary manhole locations that exceeded criteria for one or more constituents for concern (COCs). Ford and Arcadis provided an update of the onsite sanitary sewer rehabilitation efforts.
- July 16, 2021 - A meeting was conducted via Teams to discuss the offsite vapor and liquid delineation sampling and laboratory analysis that was conducted on July 13, 2021. Ford and Arcadis indicated that the results should be received the following week and would be discussed during the next bi-weekly meeting. Ford and Arcadis provided an update of the onsite sanitary

sewer rehabilitation efforts. In addition, Ford and Arcadis notified EGLE that access agreements were sent to the commercial property owners located on Plymouth Road and west of Stark Road on June 29, 2021. Access was requested at seven commercial properties in order to determine the location of the laterals that enters the building and document the properties current plumbing. To date Ford has received access from three of the seven locations.

- July 30, 2021 – A meeting was conducted via Teams to discuss the additional offsite vapor and liquid delineation sampling that was conducted on July 13, 2021. Ford and Arcadis reviewed the analytical results with EGLE and mutually agreed that post-rehabilitation vapor and liquid sampling would occur offsite once the onsite sanitary sewer had been rehabilitated. The post sampling of the vapor and liquid would determine the effectiveness of the rehabilitation activities onsite.
- August 13, 2021, and August 27, 2021– Meetings were conducted via Teams to discuss progress of the ongoing rehabilitation of the onsite sanitary sewers.
- September 10, 2021 – A meeting was conducted via Teams to discuss the ongoing rehabilitation activities. In addition, the additional offsite vapor and liquid sample results were discussed with EGLE's volatilization to indoor air specialist. Upon review of the offsite data, EGLE requested that a flow chart be prepared to evaluate commercial and residential structures that have the potential for the laterals to connected to the main lines that have or had vapor exceedances. During this meeting EGLE requested the figures related to the vapor sampling that had been completed to date, including the results onsite, on Belden Court, and within Alden Village. The figures, tables and draft flow chart were provided to EGLE on September 22, 2021.
- September 24, 2021 - A meeting was conducted via Teams to discuss the figures, tables, and flow chart that was provided to EGLE on September 22, 2021. EGLE had yet to review the draft flow chart in detail and indicate they would schedule an additional meeting the following week. Ford and Arcadis communicated to EGLE that additional offsite vapor and liquid samples will be collected the week of October 4, 2021.
- September 30, 2021 – EGLE requested a meeting to discuss the offsite utility corridor. EGLE expressed an urgency to collect real time sanitary sewer vapor sampling data in an effort to quickly delineate and define extents within the offsite sanitary sewers. EGLE also requested that further confirmation needs to occur to determine connection of lateral pipes and contributing sewer pipes connected to the main pipe located in Stark.
- October 15, 2021 – EGLE requested a meeting to discuss the analytical results from the liquid and vapor sampling event that occurred on October 7, 2021. Results indicated significantly lower concentrations of both vapors and liquids, but still exceeded the applicable criteria provided by EGLE. The meeting also provided notice of a change in project manager for EGLE.
- November 4, 2021 – EGLE requested a meeting to discuss the progress of the items detailed within the June 2, 2021, letter. Ford and Arcadis also indicated that additional vapor and liquid samples were being conducted on November 3, 2021, to determine the effectiveness of the onsite sanitary rehabilitation, which was 88% completed at that time. Approximately 4,500 linear feet of sanitary pipe and 9 manholes have been rehabilitated as of November 17, 2021. Approximately 600 linear feet of additional sanitary pipe rehabilitation will occur during plant shutdown in December 2021. In addition, during the meeting Ford indicated that groundwater impacts had been identified within the LTP Powerhouse basement sumps and that the water in the sumps was being pumped and discharged to the sanitary sewer system. As an interim response activity, Ford

began diverting water from the Powerhouse basement sumps to frac tanks on October 19, 2021, and a treatment system was installed the week of November 1, 2021. Ford has been coordinating with the Great Lakes Water Authority which regulates Ford's industrial discharge permit, on treated effluent discharge compliance sampling requirements . Confirmation sampling began the week of November 8, 2021, and approval of the new permit is anticipated the week of November 15, 2021

- Biweekly meetings will continue to be conducted with EGLE to discuss the utility corridor assessment.

As indicated above, below details the responses to EGLE's requests in the November 9, 2021, letter.

1. *Full characterization of the contamination (groundwater, sediment, and vapor) within the sewer corridor stepping out in all locations and directions where the detected vapor concentrations exceed the residential site-specific criteria to evaluate vapor migration in preferential pathways (sewers) and includes:*

Response: Sanitary sewer sampling of liquid, sediment, and vapor occurred on Ford property within Belden Court, and Alden Village during the 2Q2020, 3Q2020, 4Q2020, and 1Q2021. The work completed was in accordance with RespAP – Utility Corridor Evaluation Revised. In addition to the quarterly sampling events additional delineation sampling occurred on April 20, 2021, June 10, 2021, July 13, 2021, October 7, 2021, and November 3, 2021. Field activities were performed in the accordance with the RespAP Addendum and Addendum #2. Attached Figure 1 and 2 that illustrate the most recent off-site sanitary sewer sampling results for both vapor and liquid. The details of liquid, vapor and sediment sample results will be provided in a full report, as requested by EGLE.

   a. *Investigating both to the north and south along Stark Road, following any connections until their end.*

Response: Vapor and liquid samples were collected from the Stark Road sanitary manholes during the following sampling events:

- 2Q2020, 3Q2020, 4Q2020, and 1Q2021,
- April 20, 2021, June 10, 2021, July 13, 2021, October 7, 2021, and November 3, 2021

See the attached Figure 1 and Figure 2 for the most recent results for sanitary sewer sampling. Additional details will be provided in a full report, as requested by EGLE.

   b. *Determining if the sewer in Plymouth Road continues east beyond Stark Road, following any connections until their end.*

Response: The Plymouth Road sewer does not connect east of Stark Road. Observations during the vapor and liquid sampling events at Sanitary Location SL-5, indicated that there were inverts to the West, North, and South. The City of Livonia provided Global Information Systems (GIS) files which also indicated that the Plymouth Road sewer does not go past Stark Road. Additional details will be provided in the report to EGLE.

   c. *Identifying the presence and extent of any laterals intercepting the length of the sewer corridors where concentrations are above the applicable site-specific criteria, including any locations on the Ford property.*

Response: On March 10 through March 16, Arcadis oversaw the CCTV and cleaning of 5,100 linear feet of onsite sanitary sewers. During the CCTV and cleaning, 40 laterals were identified and confirmed onsite

connecting to the mainlines. The laterals identified appear to be consistent with the current drawings and Arcadis is currently updating the sanitary layout onsite. On June 15 through June 23, 2021, Arcadis provided oversight of the cleaning and CCTV of approximately 1,900 linear feet of offsite sanitary sewer within the Plymouth Road northern right of way between Sanitary Location SL-2 and SL-5, refer to Figure 1 for reference. During the CCTV and cleaning, 44 laterals were identified that connect to the mainline on Plymouth Road. The laterals geographically line up with the commercial properties to the north, but connections could not be confirmed due to the positioning of the connections. The laterals connected to the sanitary sewer mainline at the top of the sanitary sewer mainline, suggesting that a 90 degree bend is present. Due to the vertical connection and 90 degree bend of the pipes, Arcadis's subcontractor could not utilize a lateral launcher from the sewer mainline to investigate each lateral. No laterals were identified or confirmed to the south. The City of Livonia has indicated that there should be no laterals coming from the southern properties along Plymouth Road and provided current municipal utility drawings, which indicate properties on the south side of Plymouth Road connect to a main sanitary sewer line south of those properties, refer to Figure 1.

d. *At structures along the sewer corridor where vapors are identified, and concentrations are above the applicable site-specific criteria, Ford is required to document the laterals and their connections and determine if each structure does or does not connect to the sewer or portions of the sewer.*

Response: As discussed in the response to bullet (c), the offsite sanitary sewers and laterals were identified on Plymouth Road from June 15 through June 23, 2021.

For each lateral and structure that is connected to the sewer corridors where vapor concentrations are above the applicable site-specific criteria, each lateral pipe must be evaluated for the presence of contaminated groundwater, sediment, and vapors, including the point of entry into the structure. For example, the P-traps, floor drains and wax seals should be inspected and deemed in good working condition and demonstrated to be capable of preventing the direct volatilization of vapors into the structure. If the structure has a sump, it should also be investigated for the presence of contaminated groundwater and the potential for direct volatilization of COCs into the indoor air.

Response: Ford requested access to seven commercial property locations on June 29, 2021. To date, Ford has received three of the seven access agreements. On July 27, 2021, Arcadis went to the three properties (34850 Plymouth, 34900 Plymouth, and 35000 Plymouth) to complete a preliminary investigation to identify laterals coming into the buildings and evaluate if drains contained p-traps, identify floor drains, and determine if the toilets were wetted. Arcadis completed the investigations on July 27, 2021. During the investigation at property 34900 Plymouth Road Arcadis notified the property owner that one toilet in the women's bathroom needed to be wetted as the toilet was dry.

Arcadis will evaluate whether it is appropriate to revisit the site with a licensed plumber as part of the sewer investigation

Additional details of the three properties will be provided in a report as requested by EGLE.

Ford may in lieu of entering every structure, investigate each structure along the sewer corridor where concentrations are identified above the applicable site-specific criteria for the presence of an exterior vapor trap and sample between the exterior trap and the structure for the presence of contamination (vapors). If an exterior vapor trap was not present, Ford may elect to install an exterior vapor trap that aligns with the appropriate building code or further assess if the indoor

plumbing within each structure is protective, is preventing the migration of vapors into the indoor air.

Response: Exterior vapor traps could not be confirmed during the CCTV, cleaning, or the commercial property investigations.

e. At structures where it could not be demonstrated there was an exterior vapor trap preventing vapor migration or the indoor plumbing did not prevent the migration of vapors into the indoor air, Ford is to immediately conduct sampling of the indoor air and:
    1. At structures where indoor air concentrations exceeded the residential indoor air Recommended Interim Action Screening Levels), Ford is to immediately notify EGLE and the Department of Health and Human Services (DHHS).
    2. At structures where indoor air concentrations are not exceeded, indoor air sampling is to be conducted at regularly scheduled intervals (to be determined by DHHS) until the appropriate response activities to eliminate the risk can be completed.

Response: Ford and Arcadis will continue to assess the sanitary sewers offsite and will communicate with EGLE if conditions change.

Next Steps

As discussed above Ford and Arcadis are preparing a report to document the activities associated with the onsite and offsite utility corridor assessment for submittal within 30 days from receiving EGLE's letter on November 9, 2021. In addition, Arcadis will be collecting offsite sanitary vapor and liquid samples on Plymouth Road and Stark Road on November 23 and 24, 2021. Additional planned sample locations to delineate Sanitary Location SL-12 is identified on Figure 3. Results of the November 23 and 24 sampling will be included in the onsite and offsite utility corridor assessment report.

Attachments:
Figure 1 – Offsite Vapor Results
Figure 2 – Offsite Liquid Results
Figure 3 – Sampling and Delineation Locations

FIGURES

This document is a DRAFT document that has not received approval from EGLE. This document was prepared pursuant to a court Consent Decree. The opinions, findings, and conclusions expressed are those of the authors and not those of EGLE.

LEGEND

SURVEY POINTS

- SANITARY MANHOLE
- STORM MANHOLE
- SANITARY MANHOLE / COULD NOT OPEN
- CHAMBER
- STORM CATCH BASIN
- FLOW DIRECTION
- STORM WATER LINE
- SANITARY SEWER LINE
- PROPERTY BOUNDARY
- FORD PROPERTY BOUNDARY
- **BLUE/BOLD TEXT** RESULT EXCEEDS THE EGLE SSVIAC

NOTES:

FIGURE SHOWS DATA FOR TRICHLOROETHENE AND VINYL CHLORIDE ONLY. FULL SET OF DATA CAN BE FOUND IN THE CORRESPONDING TABLE.

"ND", "<" – INDICATES THE VALUE IS BELOW THE LABORATORY METHOD DETECTION LIMIT FOR THE ASSOCIATED SAMPLING EVENT

EGLE = DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY

EDC = EASTERN DIVERSION CHAMBER

WDC = WESTERN DIVERSION CHAMBER

SAMH = SANITARY MANHOLE

SL = SAMPLING LOCATION

[ ] – DUPLICATE SAMPLE RESULT

VAPOR RESULTS REPORTED IN MICROGRAMS PER CUBIC METER (µg/m^3). ANALYTICAL METHOD: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) TO-15.

RESULTS FROM LOCATIONS ON-SITE AND ALONG PLYMOUTH RD ARE COMPARED TO THE EGLE RESTRICTED NONRESIDENTIAL SITE-SPECIFIC VOLATILIZATION TO INDOOR AIR CRITERIA (SSVIAC) 12-HOUR WORKDAY EXPOSURE FOR TRICHLOROETHENE OF 4.0 µg/m^3 AND FOR VINYL CHLORIDE OF 27 µg/m^3. RESULTS FROM LOCATIONS ALONG STARK ROAD (INCLUDING SL-5) ARE COMPARED TO BOTH THE RESITRICTED NONRESIDENTIAL SSVIAC AND THE EGLE UNRESTRICTED RESIDENTAL SSVIAC (TRICHLOROETHENE OF 2.0 µg/m^3 AND VINYL CHLORIDE OF 1.6 µg/m^3).

RESULTS DISPLAYED IN BLUE INDICATES RESULT EXCEEDS THE EGLE SSVIAC.

SL-16	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-18	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.9)

SL-15	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-14	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.9)

SL-13	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.3)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-7	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.3)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-6	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-5	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.3) [ND (< 2.4)]
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8) [ND (< 1.9)]

SL-8	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.5)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 2.0)

SAMH-1231	
Trichloroethene (µg/m³)	
11/2/2021	33
Vinyl Chloride (µg/m³)	
11/2/2021	1,300

SL-2	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	14

SL-3	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.9)

SL-17	
Trichloroethene (µg/m³)	
11/2/2021	620
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.7)

SL-4	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.3)
Vinyl Chloride (µg/m³)	
11/2/2021	3.2

SL-9	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-10	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.4)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.9)

SL-11	
Trichloroethene (µg/m³)	
11/2/2021	ND (< 2.3)
Vinyl Chloride (µg/m³)	
11/2/2021	ND (< 1.8)

SL-12	
Trichloroethene (µg/m³)	
11/2/2021	2.5 J
Vinyl Chloride (µg/m³)	
11/2/2021	14

0 300 600
SCALE IN FEET

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE AND OFF-SITE VAPOR RESULTS TRICHLOROETHENE AND VINYL CHLORIDE

ARCADIS

FIGURE 1

CITY: Novi DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY PROJECT NUMBER: 30080642 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T:_ENV\Novi\Brighton_MI\Ford\Livonia\GIS\docs\GEC\3Q_2021\Utility Corridor\November_2021\Figure1_On-site_and_Off-site_Vapor_Results_TCE_and_VC.mxd PLOTTED: 11/18/2021 8:25:12 PM BY: PSI01045

This document is a DRAFT document that has not received approval from EGLE. This document was prepared pursuant to a court Consent Decree. The opinions, findings, and conclusions expressed are those of the authors and not those of EGLE.

LEGEND

SURVEY POINTS

- SANITARY MANHOLE
- STORM MANHOLE
- SANITARY MANHOLE / COULD NOT OPEN
- CHAMBER
- STORM CATCH BASIN
- FLOW DIRECTION
- STORM WATER LINE
- SANITARY SEWER LINE
- PROPERTY BOUNDARY
- FORD PROPERTY BOUNDARY

NOTES:

FIGURE SHOWS DATA FOR TRICHLOROETHENE AND VINYL CHLORIDE ONLY. FULL SET OF DATA CAN BE FOUND IN THE CORRESPONDING TABLE.

"ND", "<" – INDICATES THE VALUE IS BELOW THE LABORATORY METHOD DETECTION LIMIT FOR THE ASSOCIATED SAMPLING EVENT

EGLE = DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY

EDC = EASTERN DIVERSION CHAMBER

WDC = WESTERN DIVERSION CHAMBER

SAMH = SANITARY MANHOLE

SL = SAMPLING LOCATION

[ ] – DUPLICATE SAMPLE RESULT

J = ESTIMATED RESULT

LIQUID RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L).
ANALYTICAL METHOD: EGLE 8260B FOR VOLATILE ORGANIC COMPOUNDS (VOCS).

SAMH-1231	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	12

SL-2	
Trichloroethene (µg/L)	
11/2/2021	1.2
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-3	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	4.4

SL-4	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	2.6

SL-5	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.88) [ND (< 0.44)]
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.90) [0.74 J]

SL-6	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-7	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-8	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	1.4

SL-9	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	1.3

SL-10	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	1.4

SL-11	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	1.1

SL-12	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	0.50 J

SL-13	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-14	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-15	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	ND (< 0.45)

SL-16	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	4.2

SL-17	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	3.5

SL-18	
Trichloroethene (µg/L)	
11/2/2021	ND (< 0.44)
Vinyl Chloride (µg/L)	
11/2/2021	3.2

0 300 600
SCALE IN FEET

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE AND OFF-SITE LIQUID RESULTS TRICHLOROETHENE AND VINYL CHLORIDE

ARCADIS

FIGURE 2

CITY: Novi DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY PROJECT NUMBER: 30080642 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
T:_ENV\Novi\Brighton_MI\Ford\Livonia\GIS\docs\GEC\3Q_2021\Utility Corridor\November_2021\Figure2_On-site_and_Off-site_Liquid_Results_TCE_and_VC.mxd PLOTTED: 11/18/2021 12:04:52 AM BY: PSI01045

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SL-11

RICHLAND CT

RICHLAND AVE

STARK RD

SL-22

SL-12

SL-19

SL-20

SL-21

HATHAWAY AVE

LEGEND

- SAMPLE LOCATION
- DELINEATION LOCATION
- SANITARY MANHOLE
- SANITARY SEWER LINE

NOTES:

SL = SAMPLE LOCATION

0 100 200

SCALE IN FEET

FORD LIVONIA TRANSMISSION PLANT

UTILITY CORRIDOR ADDITIONAL SAMPLING LOCATIONS

ARCADIS

FIGURE 3

CITY: Novi DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY PROJECT NUMBER: 30080642.701.02 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet
T:_ENV\NoviBrighton_MI\Ford\Livonia\GIS\docs\GEC\1Q_2021\Utility Corridor\Figure 1_manholeSampling.mxd PLOTTED: 11/18/2021 3:41:56 PM BY: TYarbrough