

WHEN THE PAST COMES BACK TO
HAUNT:

PFAS GROUNDWATER
CONTAMINATION IN NORTHERN
KENT COUNTY, MICHIGAN

ALGOMA & PLAINFIELD TOWNSHIP

SARA SIMMONDS - MPA,REHS

KENT COUNTY ENVIRONMENTAL HEALTH DIRECTOR

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MICHIGAN DEPARTMENT ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)

ABIGAIL HENDERSHOTT

KAREN VORCE

MARK WORRAL

DAVE WIERZBICKI

MARK DUCHARME

MONTANA KRUKOWSKI

SUE LEEMING

ENVIRONMENTAL PROTECTION AGENCY

JEFF KIMBLE

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS)

CHRIS BUSH

BILL FARRELL

DEB MACKENZIE – TAYLOR

KORY GROETSCH

LAURA GOUSSIAUX

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

MARK JOHNSON

KENT COUNTY HEALTH DEPARTMENT

ADAM LONDON

ALI GLAZIER

BRENDAN EARL

JANEY DONNINI

MARY READING

STEVE KELSO

EH TEAM

CITY OF ROCKFORD

PLAINFIELD TOWNSHIP

ALGOMA TOWNSHIP

BRIEF HISTORY OF SOLID WASTE REGULATION IN MICHIGAN



FEDERAL RCRA – RESOURCE CONSERVATION AND RECOVERY ACT SETS THE STAGE



- **MICHIGAN REPEALS THE GARBAGE AND REFUSE DISPOSAL ACT 87 OF 1965**
325.291-325.300 REPEALED. 1978, ACT 641, IMD. EFF. JAN. 11, 1979.
- **BEGINS ADOPTING RCRA STANDARDS**
- **TRANSFER OF LHD SOLID WASTE FILES TO MDEQ**

1855 HOUSE STREET SOURCE AREA

- OWNED BY WOLVERINE WORLD WIDE
- LICENSED LANDFILL FROM AS EARLY AS THE LATE 1950'S CLOSED BY 1970
- REGULATED UNDER ACT 87 OF 1965
- USED FOR THE DUMPING OF WASTE FROM THE TANNERY
- USED A METHOD OF DIGGING TRENCHES OR "SEEPAGE PITS" TO DISPOSE OF "LIME LIQUOR"

The lime liquor is a by-product of the Tanning operation; a mixture of lime, water, dissolved protein, and fat.

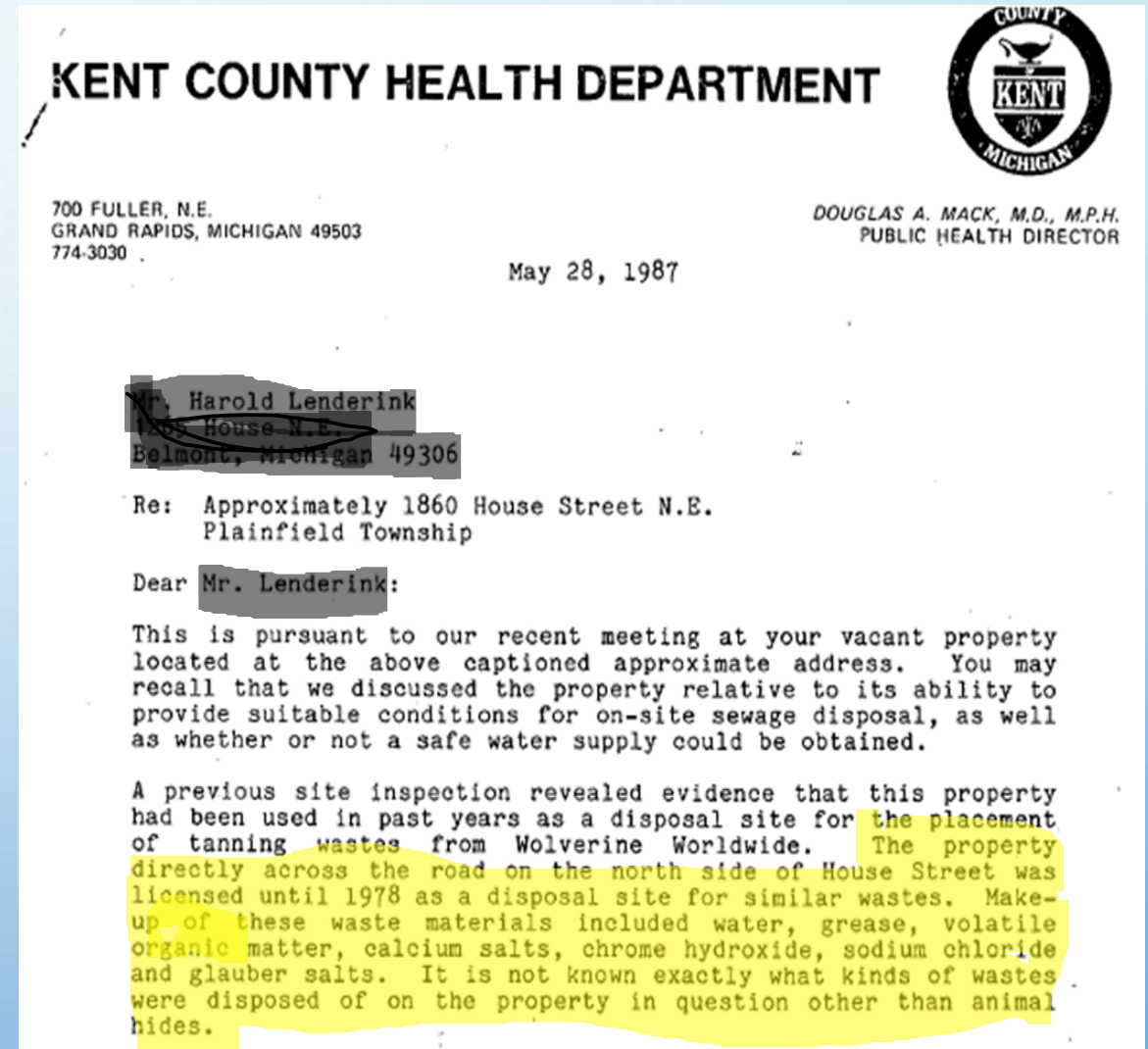
Excerpt from WWW Plant Engineer letter from May 4, 1966 from WWW Plant Engineer to MDPH Director requesting addendum to Solid Waste Disposal License



1968 Aerial Photo – KC Mapping and Description Historical

WHAT WAS DUMPED ON THIS SITE?

- MICHIGAN WATER WELL CONSTRUCTION AND PUMP INSTALLATION CODE OF PART 127 OF 1968 AS AMENDED
- ADOPTED BY KENT COUNTY IN 1996
 - ONE OF THE LAST COUNTIES TO ADOPT THE RULES
- WATER WELL REGULATIONS FOR KENT COUNTY, MICHIGAN ADOPTED
- GROUNDWATER
 - RELEASE OF "VOLATILE ORGANIC MATTER"
 - HEAVY METALS
 - UNCLEAR WHAT ELSE WAS DUMPED
- SOIL CONTAMINATION



PRECAUTIONARY
MEASURES TAKEN
DURING THE
WELL PERMITTING
PROCESS FOR
THIS AREA

Pre -
1996

- Test wells
- Specialized testing
 - VOC
 - Metals

Post
1996

- Specialized testing
 - VOC
 - Metals
 - SOC
- Well construction requirements



PFAS COMES TO THE FOREFRONT IN KENT COUNTY

- IN 2016, KCHD IS NOTIFIED BY THE MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS) THAT A TYPE I WATER SUPPLY IN PLAINFIELD TOWNSHIP EXCEEDS THE EPA HEALTH ADVISORY LEVEL 70 PPT IN ONE OF THEIR WELLS
- BELIEVED TO BE LINKED TO A KNOWN SITE OF CONTAMINATION CALLED STATE DISPOSAL OWNED BY WASTE MANAGEMENT
- THE PLAINFIELD TOWNSHIP WATER TREATMENT SUPERINTENDENT CONVENED A MEETING WITH THE REMEDIATION AND RECOVERY DIVISION & PART 201 DIVISION (EGLE), DHHS, KCHD, PLAINFIELD TOWNSHIP OFFICIAL, AND WASTE MANAGEMENT, THE POTENTIAL RESPONSIBLE PARTY.
- IN SPRING OF 2017, DURING A BREAK AT THE MEETING AN EGLE REPRESENTATIVE MENTIONS PFAS CONCERNS AT THE HOUSE STREET SITE
- NO RESPONSIBLE PARTY ASSIGNED AT THIS TIME FOR THE HOUSE STREET SITE



SYNCHRONICITY SPRING 2017

- MEETING WITH PLAINFIELD TOWNSHIP AND OTHERS
- CONCERNED CITIZENS FOR RESPONSIBLE REMEDIATION
- BRITTANY AND BRENT
- INDEPENDENT RESIDENT COMPLAINT

EXCERPT OF A WORKER TESTIMONIAL

Method of Dumping

Although Bell's pick-up service was a residential trash service they owned a single axle Ford Dump Truck with arms that could lift dumpsters or in the case of the tannery waste, open buckets of sludge. Johnny estimates that each bucket of sludge contained about 5-6 yards of sludge. The tannery sludge was liquid in consistency and he remembers it splashing onto the streets, at times, or in his words would "slop onto the road."

These buckets of sludge were about five feet tall, maybe 6-8 feet long, 6 feet wide and they were open on the top.

Johnny would drive to the Waste water treatment area of the Tannery, and in the morning there would usually be two sludge buckets outside the waste water treatment plant waiting for pickup. The bucket would be lifted up with the arms of the truck and placed in the back of the truck.

REQUEST FOR A NEW RESIDENTIAL WELL PERMIT

BRITTANY AND BRENT

Testing overseen by MDEQ and completed by
Rose & Westra consultant for Wolverine World
Wide



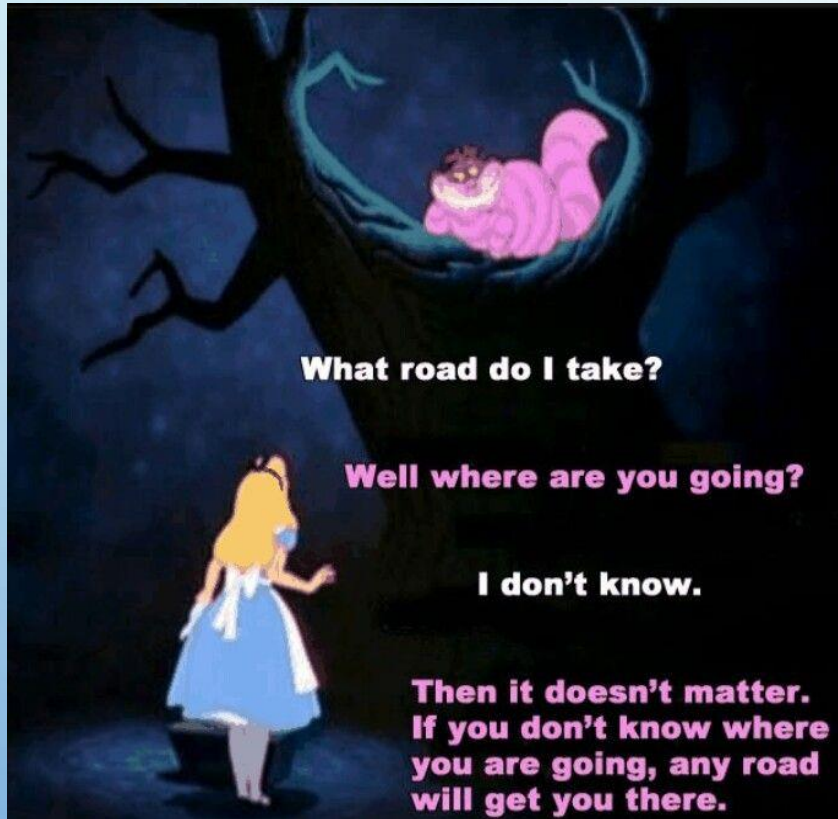


THE NON-COMMUNITY WATER SUPPLY PROGRAM BECOMES INVOLVED

- BELMONT ARMORY
- DEPARTMENT OF DEFENSE COMPLETING NATIONAL TESTING OF ALL SITES
- PFAS EXCEEDED 70 PPT
- CONTINUATION OF THE INVESTIGATION IS ACCELERATED AND MORE RESIDENTIAL WELL TESTING BEGAN

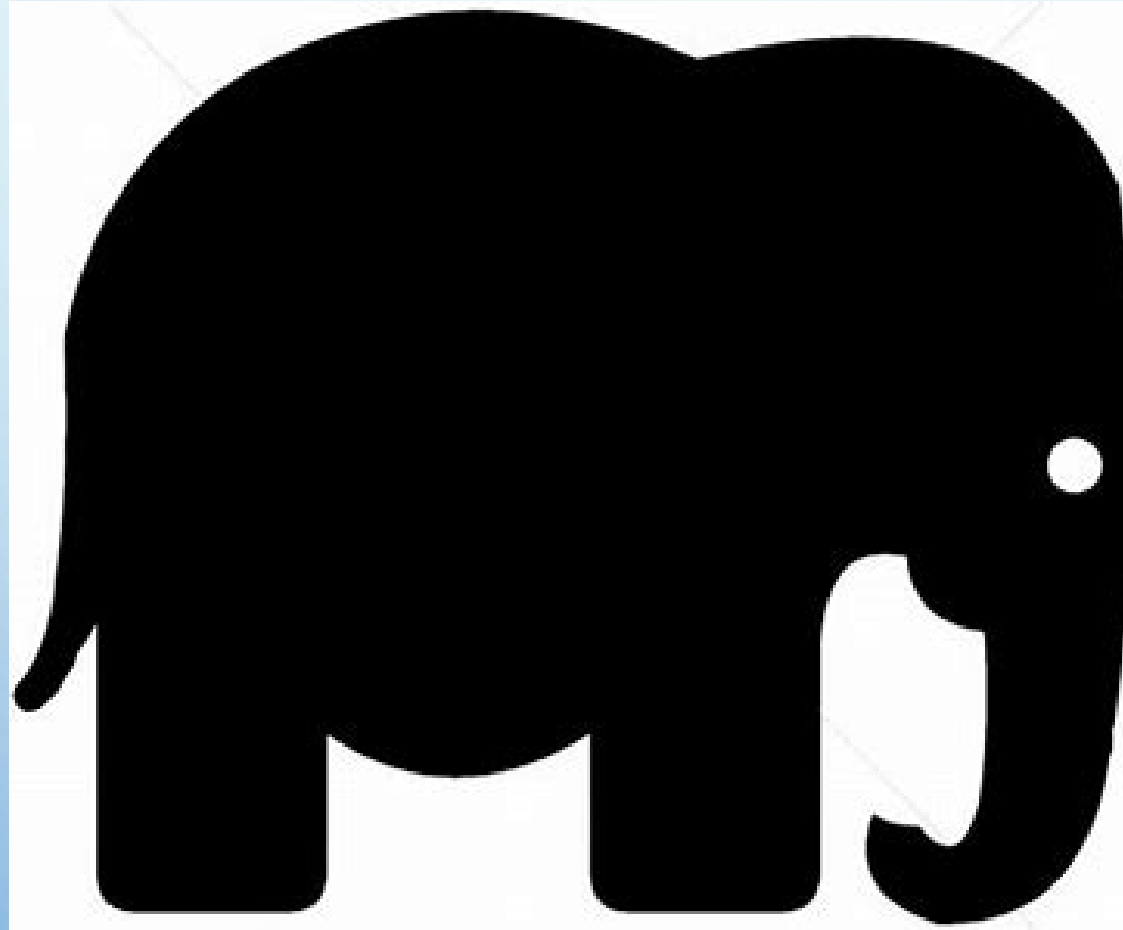


STATE AND LOCAL RESPONSE



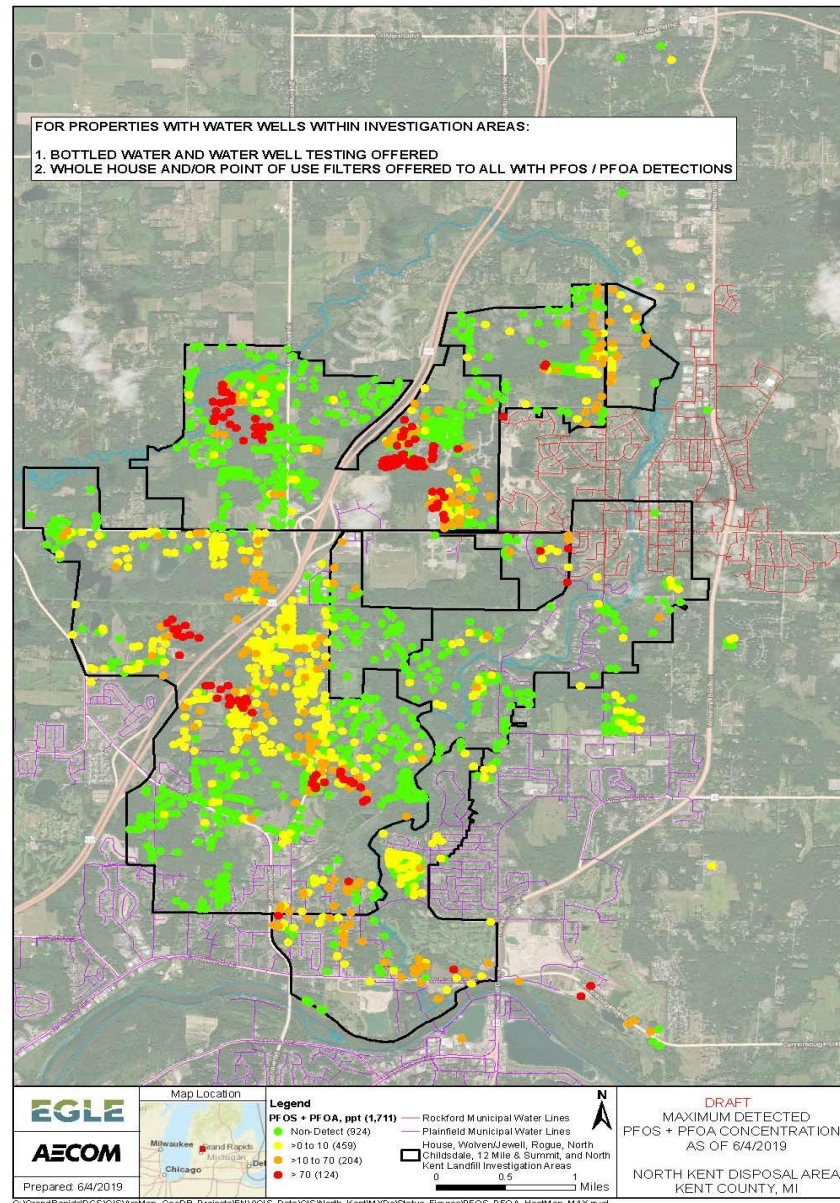
Lewis Carroll, Alice in Wonderland

- THERE IS NO ROAD MAP OR PROCESS IN PLACE FOR THIS RESPONSE
- PARTNERSHIP IN THE PUBLIC HEALTH INFRASTRUCTURE
- DAILY MEETINGS WITH COMMUNITY PARTNERS – DHHS, EGLE, PLAINFIELD TOWNSHIP, AND WOLVERINE WORLDWIDE FOR THE FIRST THREE AND HALF MONTHS FROM 5 PM TO 8 PM FROM SEPTEMBER TO EARLY DECEMBER
- MONTHLY MEETINGS WITH THE EPA AND ATSDR
- WORKING OUT THE KINKS
 - UNDERSTANDING ROLES AND SKILLS
 - UNDERSTANDING THE DATA AND ITS SIGNIFICANCE
 - EPA METHOD 357
 - [HTTPS://WWW.EPA.GOV/PFAS/EPA-DRINKING-WATER-LABORATORY-METHOD-537-QA](https://www.epa.gov/pfas/epa-drinking-water-laboratory-method-537-qa)



MAPS AND DATA

- BEST AVAILABLE INFORMATION
- [HTTPS://WWW.MICHIGAN.GOV/PFASRESPONSE/0,9038,7-365-86511_82704_83030---_00.HTML](https://www.michigan.gov/pfasresponse/0,9038,7-365-86511_82704_83030---_00.html)



JUST HOW BAD IS THIS?

Wolven/Jewell - Wolven Northeast

(as reported by Wolverine)

Wolverine has sampled 565 homes.

565 results received:

364 were non-detect PFOS+PFOA

201 had detection of PFOS+PFOA

78 homes over 70 ppt (PFOS+PFOA)

Highest concentration is 72,400 ppt (PFOS+PFOA)

Range PFOS+PFOA (ppt)	Number of samples
Between 10,000 to 72,400	8
Between 1,000 to 10,000	8
Between 100 and 1,000	52
Between 70 and 100	10
Total:	78

House Street Area

(as reported by Wolverine)

Wolverine has sampled 691 homes.

692 results received:

298 were non-detect PFOS+PFOA

394 had detection of PFOS+PFOA

39 homes over 70 ppt (PFOS+PFOA)

Highest concentration is 76,000 ppt (PFOS+PFOA)

Range PFOS+PFOA (ppt)	Number of samples
Between 10,000 to 76,000	2
Between 1,000 to 10,000	3
Between 100 and 1,000	23
Between 70 and 100	11
Total:	39

COMMUNICATING THE UNKNOWN

PARTNERING WITH THE DHHS TO PROVIDE HOMEOWNER RESULTS

- CALLED RESIDENTS WITH DETECTIONS OVER 70 PPT AND NOT DETECTED
- DHHS CALLED THE MID RANGE SAMPLES ABOVE 10 PPT UNDER 70 PPT

UNCERTAINTY IN SCIENCE

- WHAT DOES THE 70 PPT MEAN?
- INITIALLY DRIVEN BY RESIDENTIAL WATER WELL SAMPLES
- METHODS BEING USED BY LABS DIFFERED – EPA 357.1 OR MODIFIED
- WALKING BACK

EMPATHY & CONCERN BUT BE CLEAR ABOUT WHAT YOU DO AND DO NOT KNOW

PRECISE, CLEAN EMAILS WITH THE FOLLOWING IN MIND:

DON'T PUT ANYTHING IN AN EMAIL THAT YOU AREN'T PREPARED TO READ TO HAVE READ IN THE COURT.



WRITTEN AND IN PERSON COMMUNICATIONS

- COMMUNICATE WITH THE RESIDENTS IN THE INVESTIGATION AREA
 - BUILDING TRUST
- CREATING A UNIVERSAL MESSAGE BETWEEN AGENCIES
 - WEEKLY NEWSLETTERS FOR THE FIRST SIX MONTHS TO A YEAR
 - THREE TOWNHALL MEETINGS WITH THE COMMUNITY
 - EVENTUALLY LIVE STREAMING
- ADVOCACY. ADVOCACY. ADVOCACY.

WELL PERMITTING

[HTTPS://WWW.MLIVE.COM/NEWS/GRAND-RAPIDS/2018/11/FAMILY WITH BROKEN WELL LIKELY.HTML](https://www.mlive.com/news/grand-rapids/2018/11/family-with-broken-well-likely.html)

[HTTPS://WWW.MLIVE.COM/NEWS/2019/05/JUDGE-DENIES-FAMILY-S-REQUEST-TO-EXPEDITE-WOLVERINE-PFAS-TRIAL.HTML](https://www.mlive.com/news/2019/05/judge-denies-family-s-request-to-expedite-wolverine-pfas-trial.html)



WHERE ARE WE NOW?



- DATA COLLECTION
- MUNICIPAL WATER EXTENSION
ADVOCACY
- LEGAL ISSUES
- EXPANSION OF CONTAMINATION
INVESTIGATION TO OTHER AREAS
OF THE COUNTY
- EXPOSURE ASSESSMENT UNDERWAY
- COMPASSION FATIGUE

THANK YOU

“I WONDER IF I'VE BEEN CHANGED IN THE NIGHT. LET ME THINK. WAS I THE SAME WHEN I GOT UP THIS MORNING? I ALMOST THINK I CAN REMEMBER FEELING A LITTLE DIFFERENT. BUT IF I'M NOT THE SAME, THE NEXT QUESTION IS 'WHO IN THE WORLD AM I?' AH, THAT'S THE GREAT PUZZLE!”

— LEWIS CARROLL, [ALICE IN WONDERLAND](#)

SARA SIMMONDS

KENT COUNTY ENVIRONMENTAL HEALTH DIRECTOR

SARA.SIMMONDS@KENTCOUNTYMI.GOV

616-632-7316

