

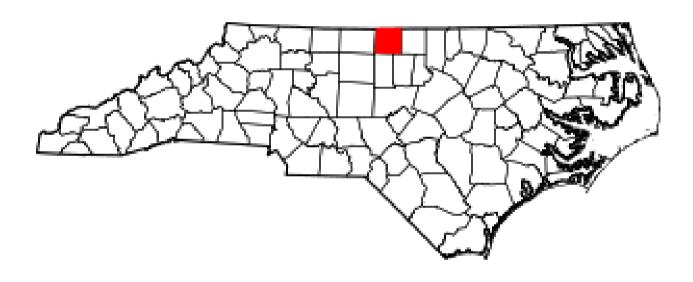
Assessing Rural Community Health, Environment, and Cumulative Impacts due to a **Proposed Asphalt Plant in** the Anderson Community

Presented by Reverend Bryon Shoffner, Ms. Anita Foust, & Lindsay Savelli

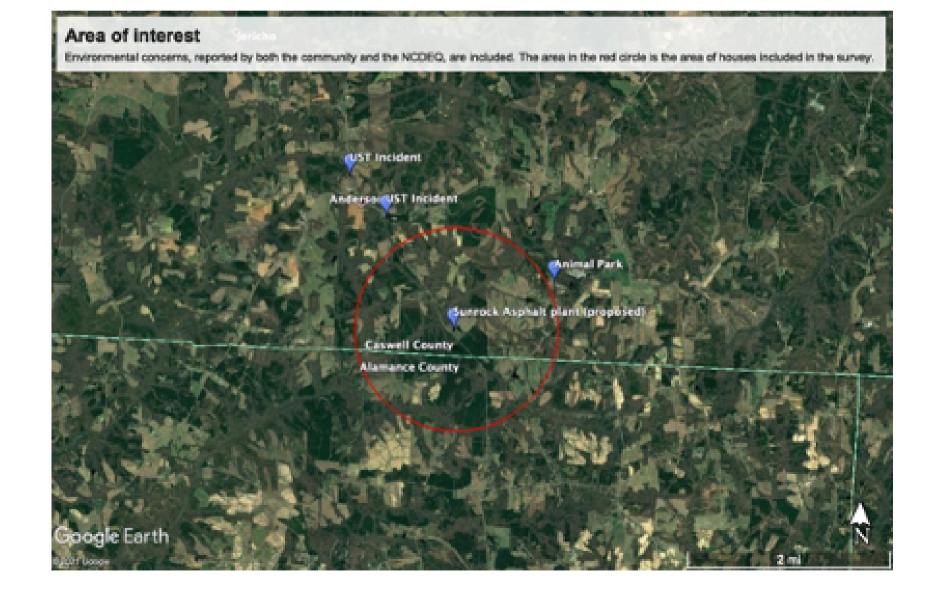
With support from Amy Kryston & Dr. Courtney Woods

BACKGROUND

The Anderson Community in Caswell County has been selected as the proposed site for an asphalt plant



Residents' home are located within a quarter-mile of the proposed site



ANDERSON COMMUNITY



Demographics

83% of residents self-identify as African American, Latinx, or American Indian



Environment

The community is already experiencing nuisances from a local animal center



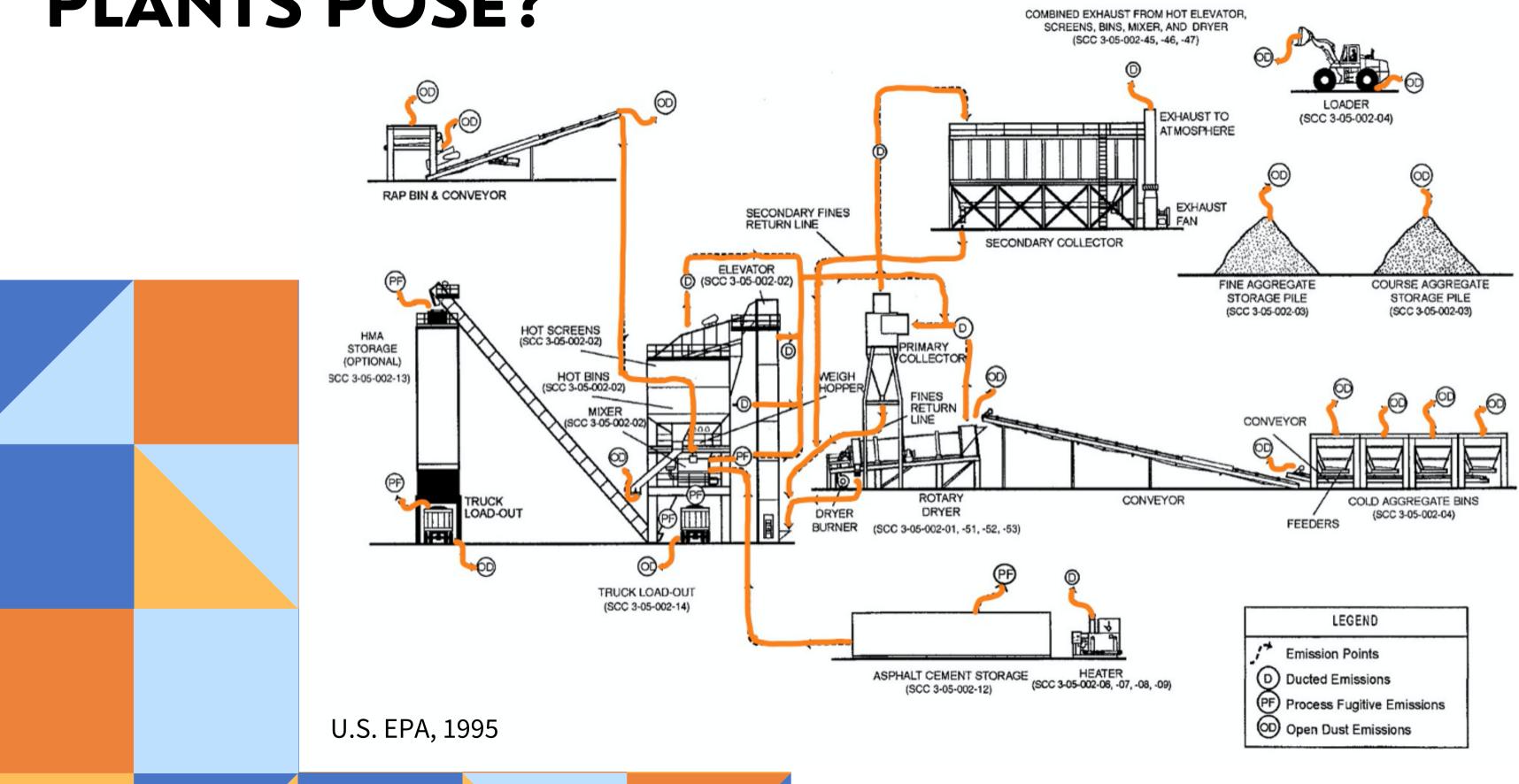
Assets & Advocacy

Residents of Anderson Township mobilized to fight plant approval





WHAT HEALTH THREATS DO ASPHALT PLANTS POSE?

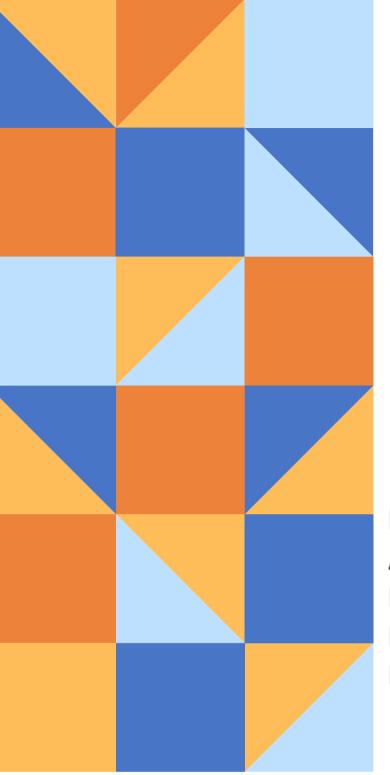


ASPHALT PLANTS PRODUCE TOXIC CHEMICALS

- These include:
 - Particulate Matter (PM), Sulfur
 Dioxides (SO2), Polycyclic Aromatic
 Hydrocarbons (PAH), Hydrogen
 Sulfides (H2S), Carbon Disulfides,
 Formaldehyde, Cadmium, Arsenic,
 Benzene, Nitrogen Oxides (BREDL, n.d.)
- Existing literature considers occupational exposure but not residential exposure to asphalt plant pollution



David Nunuk, 2013



ASSOCIATED HEALTH IMPACTS

Dry Eye Disease (Shin et al., 2020) Allergic Conjunctivitis (Mimura et al., 2014)

Skin Cancer (BREDL, n.d.)

Respiratory Illnesses: Asthma, COPD, Lung Inflammation & Lung Cancer (Låg et al., 2020) Death from COVID-19 (Bashir et al., 2020)

Birth Defects (Bahadar et al., 2014) Preterm Births (Padula et al., 2019) Infant & Fetal Mortality (Agarwal, 2010) Brain Cancer (Butler, 2000) Neurological Issues (Bahadar et al., 2014) Tourette's Syndrome & Developmental Delays (Chen et al., 2021)

Leukemia (BREDL, n.d.)

Hypertension & Cardiovascular Disease (Brook & Rajagopalan, 2009)

Type 2 Diabetes (Wang et al., 2020) Stomach Cancer (BREDL, n.d.)

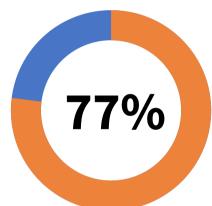
COMMUNITY HEALTH ASSESSMENT

- The Shoffner Report found that the CHA for Caswell County & NCDEQ EJ Snapshot Report did not accurately reflect demographics, health outcomes, and concerns of the Anderson Community
- Partnership between Anderson Community Group (ACE), UNC Environmental Justice Action Research Clinic, & NC Institute of Public Health
- Phone-based & In-person CHA was developed specifically for homes within a one-mile radius of the proposed asphalt plant
- Community-based participatory research methods utilized throughout the partnership

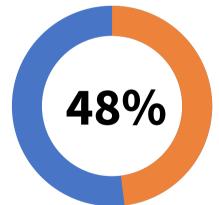




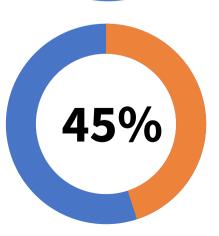




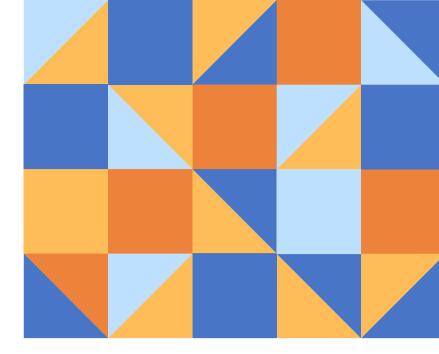
ANDERSON RESIDENTS REPORT AT LEAST ONE FORMALLY DIAGNOSED CHRONIC ILLNESS



ANDERSON RESIDENTS REPORT 3 OR MORE FORMALLY **DIAGNOSED CHRONIC ILLNESSES**

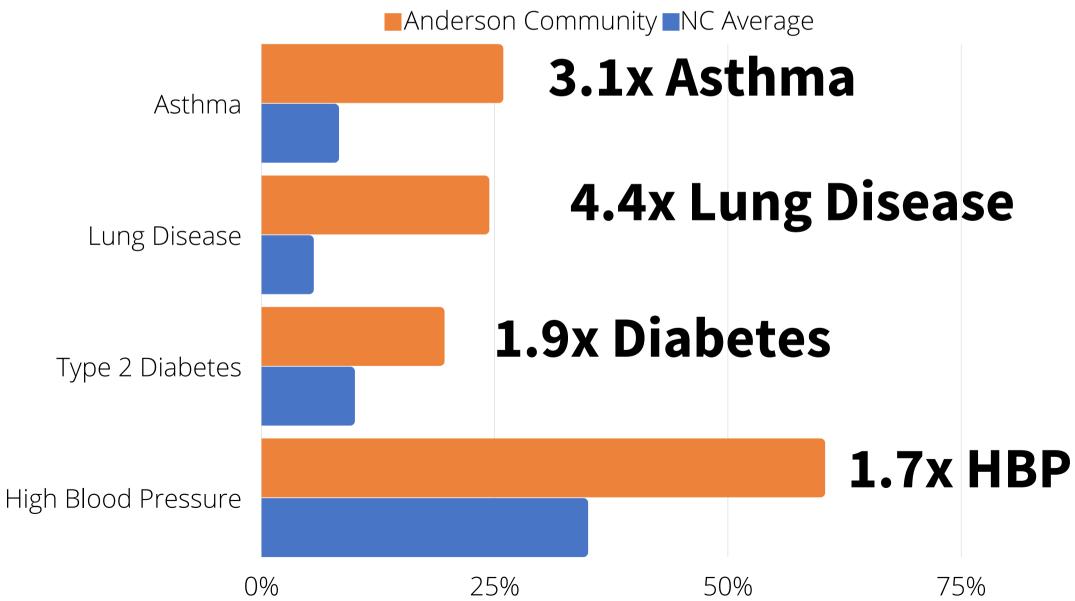


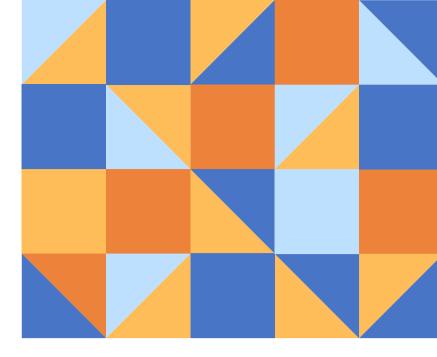
ANDERSON RESIDENTS REPORT AT LEAST ONE **DISABILITY** THAT LIMITS LIFE ACTIVITIES



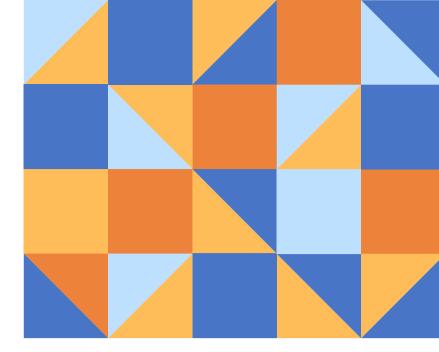
RESULTS n = 48

Prevalence of Health Issues & Disabilities in Anderson vs. NC Averages





RESULTS n = 48 Cumulative Impacts Fewer physicians in Caswell County vs. NC averages **6.2x** Residents report plumes of smoke 60% 62% Residents report strange odors





Concerned Anderson citizens are also worried about:



Decreased Property Values



Increased Truck Traffic







Nuisances already present in the community



Limited Economic Opportunities



Lack of access to physicians



Recent Tree Clearing

Increased Risk of COVID-19

SLAPP lawsuit filed against 58 residents to stifle organizing

RESIDENT CONCERNS ABOUT THE PROPOSED FACILITY

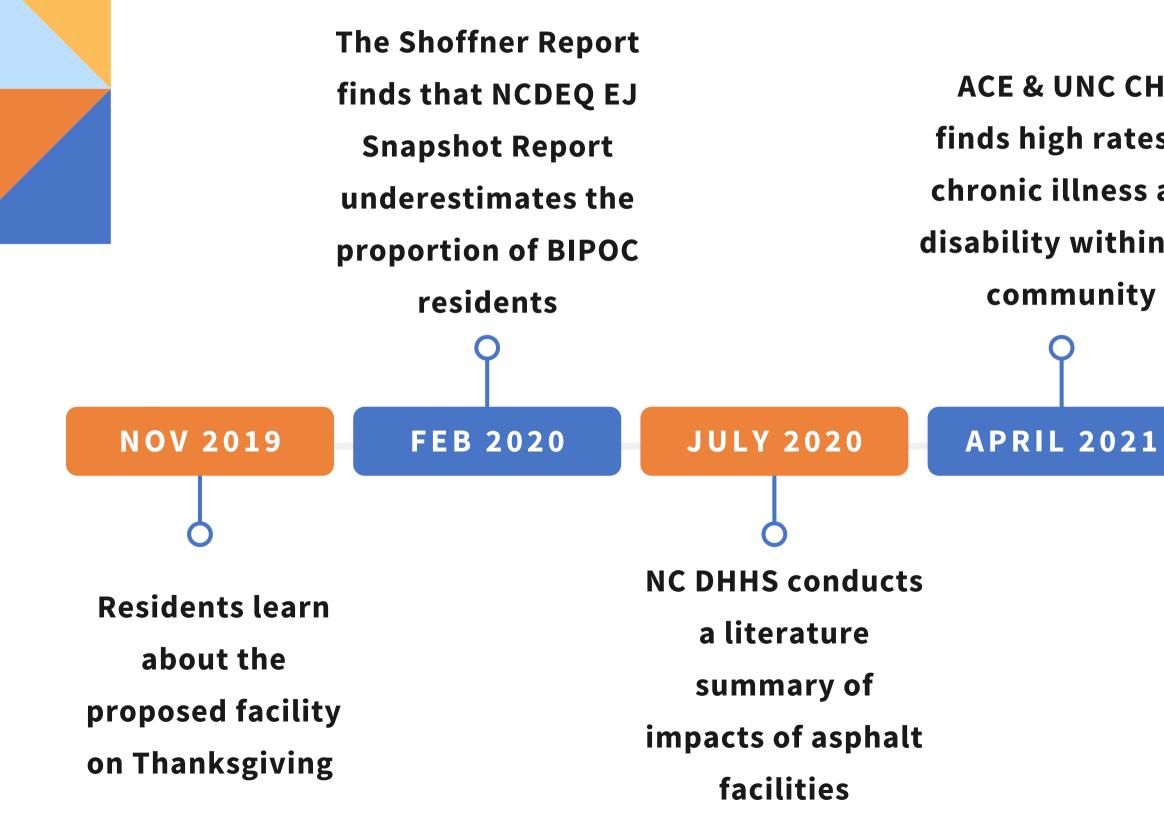
"Our health is more important than a polluting industry.....We know COVID-19 has hit the Black and Brown communities very hard. Why add another stressor to the list? Let the people breathe freely and deny the air permit. Do not give them a permit to kill. Do not give them a license to kill."

POLICIES ARE NEEDED TO PROTECT ANDERSON & SIMILAR COMMUNITIES

- Combat environmental racism
- Incorporate cumulative impacts in the permitting process
- Place the burden of proof on industries and not on communities
- Protect community organizers from baseless lawsuits



THE ANDERSON COMMUNITY HAS BEEN EFFECTIVELY ORGANIZING SINCE 2019

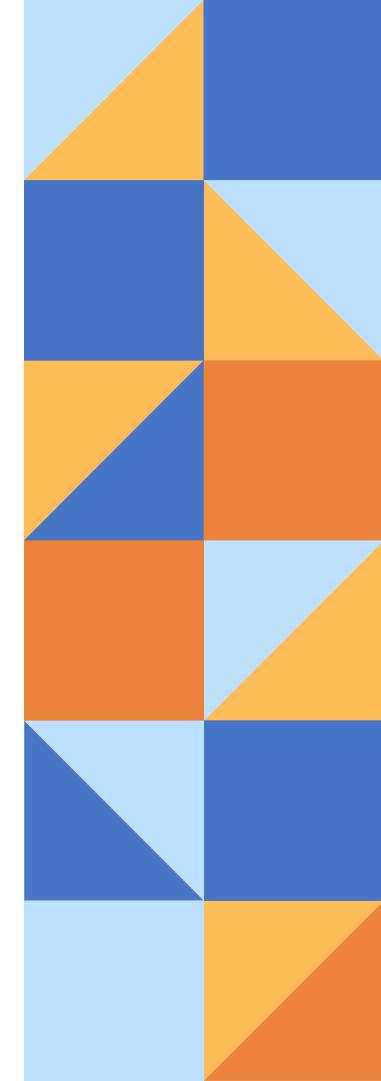


		EPA Complaint Filed;
HA		SLAPP lawsuit against
s of		Rev. Shoffner, Ms.
and		Anita, & Thomas Day-
n the		Caswell Holt Branch of
/		the NAACP dismissed
		0
	OCT 2021	MARCH 2022
	0	
The air permit for		
the asphalt plant		
is approved		



ACE HAS FILED MULTIPLE APPEALS SINCE 2022

- March 2022
 - EPA Title VI Complaint Filed
 - ADA Title II Complaint Filed
 - Watershed Permit Appeal
- Subchapter 01C, Zoning, and Other Regulatory Changes
- Protections for Disabilities



THE ONUS FOR PROTECTIONS IS ON **COMMUNITIES**



• ACE has utilized numerous and varied strategies to combat the proposed facility • Burden of proof is placed on communities



TAKE ACTION TODAY

- Donate to communities fighting asphalt plants & other polluting industries
- Join the North Carolina Environmental Justice Network
- Contact your State Representatives
- Write a letter to Governor Cooper
- Follow EJ media and EJ listservs
- Spread the word to friends and family

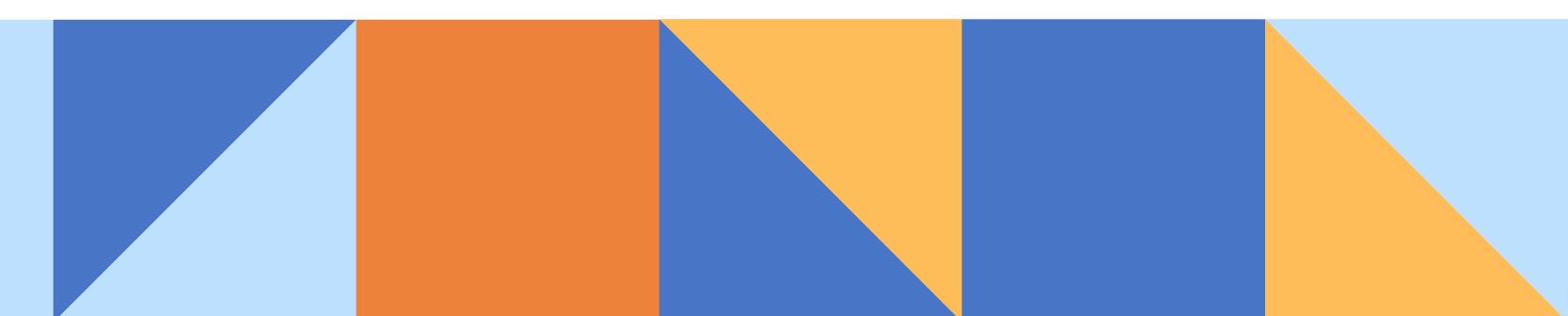


Bill Lindeke, 2019

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REFERENCES

Agarwal, N., Banternghansa, C., & Bui, L. T. (2010). Toxic exposure in America: estimating fetal and infant health outcomes from 14 years of TRI reporting. Journal of health economics, 29(4), 557–574. https://doi.org/10.1016/j.jhealeco.2010.04.002

Anderson Community Group, Inc. (ACE) (2021). We Need Sustainable Development. Anderson Community Group - Sustainable Development. https://andersoncommunitygroup.org/ Bashir, M. F., Ma, B. J., Bilal, Komal, B., Bashir, M. A., Farooq, T. H., Iqbal, N., & Bashir, M. (2020). Correlation between environmental pollution indicators and COVID-19 pandemic: A brief study in Californian context. *Environmental research*, 187, 109652. https://doi.org/10.1016/j.envres.2020.109652

Brook, R. D., & Rajagopalan, S. (2009). Particulate matter, air pollution, and blood pressure. Journal of the American Society of Hypertension : JASH, 3(5), 332–350. https://doi.org/10.1016/j.jash.2009.08.005

Bahadar, H., Mostafalou, S., & Abdollahi, M. (2014). Current understandings and perspectives on non-cancer health effects of benzene: a global concern. Toxicology and applied pharmacology, 276(2), 83–94. https://doi.org/10.1016/j.taap.2014.02.012

Blue Ridge Environmental Defense League (BREDL). (n.d.). ASPHALT PLANTS CONTAMINANTS OF CONCERN: An overview of 7 toxic substances released from asphalt processing facilities and their known effects on human health. [Fact sheet]. https://sustainablemadison.org/files/factsheet.pdf

Butler, M. A. S. (2000). Health Effects of Occupational Exposure to Asphalt. United States: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health.

Caswell County Community Health Assessment 2019. (2020, February). Caswell County Health Department. https://schs.dph.ncdhhs.gov/units/ldas/cha2019/Caswell%20County%20CHA%202019%20(1).pdf

CDC. (2021, March 30). Most Recent Asthma State Data. CDC: Centers for Disease Control and Prevention. https://www.cdc.gov/asthma/most_recent_data_states.htm

Chen, H.L., Zhang, R., Tsai, S., Chou, R.H., Hsu, Y.C., Fan, H.C., Muo, C.H., Hsu, C.Y., & Chang, K.H. (2014). Ambient Air Pollution Exposure and Risk of Developmental Delay in Children and Teenagers in Taiwan. Atmosphere. 12(8):1039. https://doi.org/10.3390/atmos12081039

Låg, M., Øvrevik, J., Refsnes, M., & Holme, J. A. (2020). Potential role of polycyclic aromatic hydrocarbons in air pollution-induced non-malignant respiratory diseases. Respiratory research, 21(1), 299. https://doi.org/10.1186/s12931-020-01563-1

Lindeke, B. (2019, April 2). It's pothole-filling time. So where does the asphalt come from? [Photograph]. *MinnPost*. https://www.minnpost.com/cityscape/2019/04/industrial-era-lifelinepothole-factory-looms-large/

REFERENCES

Mimura, T., Ichinose, T., Yamagami, S., Fujishima, H., Kamei, Y., Goto, M., Takada, S., & Matsubara, M. (2014). Airborne particulate matter (PM2.5) and the prevalence of allergic conjunctivitis in Japan. The Science of the total environment, 487, 493–499. https://doi.org/10.1016/j.scitotenv.2014.04.057

NC Division of Public Health. (2021). Data – Community and Clinical Connections for Prevention and Health. Community and Clinical Connections for Prevention and Health. https://www.communityclinicalconnections.com/data/

Nunuk, D. (2013, May 6). Smoke Plume From Asphalt Plant. [Photograph]. FineArtAmerican. https://fineartamerica.com/featured/smoke-plume-from-asphalt-plant-david-nunuk.html Padula, A. M., Yang, W., Lurmann, F. W., Balmes, J., Hammond, S. K., & Shaw, G. M. (2019). Prenatal exposure to air pollution, maternal diabetes and preterm birth. Environmental research, 170,

Padula, A. M., Yang, W., Lurmann, F. W., Balmes, J., Hammond, S. K., & Shaw, G. M. (2019). Prenatal exposure to air 160–167. https://doi.org/10.1016/j.envres.2018.12.031

Pleasants, R. A., Herrick, H., & Liao, W. (2013). The prevalence, characteristics, and impact of chronic obstructive pulmonary disease in North Carolina. North Carolina medical journal, 74(5), 376–383.

Savelli, L., Kryston, A., & Woods, C. (2021, August). Report on Anderson Community Environmental Quality and Health. University of North Carolina at Chapel Hill. https://img1.wsimg.com/blobby/go/7dbe2f27-1daa-4e83-a9f5-b283edea88dd/downloads/Report%20on%20Anderson%20Community%20Environmental %20Qua.pdf?ver=1647287496256

Shin, J., Lee, H., & Kim, H. (2020). Association between Exposure to Ambient Air Pollution and Age-Related Cataract: A Nationwide Population-Based Retrospective Cohort Study. International journal of environmental research and public health, 17(24), 9231. https://doi.org/10.3390/ijerph17249231

SHRM. (2019, November 5). Does the Americans with Disabilities Act (ADA) provide a list of conditions that are covered under the act? SHRM. https://www.shrm.org/resourcesandtools/toolsand-samples/hr-qa/pages/cms_011495.aspx

U.S. Environmental Protection Agency. (1995, January). Volume I: Stationary Point and Area Source. CHEJ. Compilation of Air Pollution Emissions Factors, I(5), 11.1-0 - 11.1-2. http://chej.org/wp-content/uploads/Asphalt-Plants-PUB-131.pdf

Wang, M., Jin, Y., Dai, T., Yu, C., Zheng, S., Nie, Y., & Bai, Y. (2020). Association between ambient particulate matter (PM10) and incidence of diabetes in northwest of China: A prospective cohort study. Ecotoxicology and environmental safety, 202, 110880. https://doi.org/10.1016/j.ecoenv.2020.110880