Mississippi Valley Division,
Regional Planning and Environment Division South

Memphis Metropolitan Stormwater – North DeSoto County Feasibility Study, DeSoto County Mississippi

Appendix M – Environmental Justice

May 2021

CONTENTS

LIST OF TABLES

Section 1
Purpose

All Federal undertakings or projects require an assessment of Environmental Justice as per Executive Order #12898. This appendix describes the demographic conditions of the study area, County of DeSoto, MS, the site of the Proposed Action and the alternatives. The study area for potential construction measures to reduce flood risk was identified during the plan formulation process based on the historical and forecasted future flood. This appendix evaluates the potential for the Proposed Action and the alternatives to result in disproportionately high and adverse environmental and human health effects on low-income or minority populations.

Section 2
Environmental Justice (EJ)

EJ is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Executive Order 12898 of 1994 directs Federal agencies to identify and address any disproportionately high adverse human health or environmental effects of federal actions to minority and/or low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, some other race, or a combination of two or more races. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. Low-income populations as of 2017 are those whose income are $24,600 for a family of four and are identified using the Census Bureau's statistical poverty threshold. The Census Bureau defines a "poverty area" as a census tract or block group with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level.

2.1 EJ METHODOLOGY

The methodology, consistent with E.O. 12898, to accomplish this EJ analysis includes identifying populations that are exposed to high levels of environmental stressors and are low-income or minority populations within the study area using up-to-date economic statistics, aerial photographs, and U.S. Census Bureau 2013-2017 American Community Survey (ACS) estimates. The EPA has developed an EJ mapping and screening tool called EJSCREEN, which is based on nationally consistent data and an approach that combines environmental and demographic indicators in the form of EJ indexes (https://www.epa.gov/ejscreen accessed 5/13/2021). Using EJSCREEN, the study area was evaluated to determine whether it contained a concentration of minority and /or low-income populations.

The EPA selected the following environmental indicators for use in the 2017 version of EJSCREEN:

1. Air pollution
   a. PM2.5 level in air.
   b. Ozone level in air.
   c. NATA air toxics:
      i. Diesel particulate matter level in air.
      ii. Air toxics cancer risk.
      iii. Air toxics respiratory hazard index.
2. Traffic proximity and volume: Amount of vehicular traffic nearby, and distance from roads.

3. Lead paint indicator: Percentage of housing units built before 1960, as an indicator of potential exposure to lead.
4. Proximity to waste and hazardous chemical facilities or sites: Number of significant industrial facilities and/or hazardous waste sites nearby, and distance from those:

a. National Priorities List (NPL) sites.
b. Risk Management Plan (RMP) Facilities.
c. Hazardous waste Treatment, Storage and Disposal Facilities (TSDFs).

5. Wastewater discharge indicator: Proximity to toxicity-weighted wastewater discharges

If an EJ community's exposure to the environmental indicators listed previously is above the 80th percentile in the state or USA and the Federal action exacerbates any of those environmental risks, a potential disproportionate impact may occur. Specifically, a disproportionate impact occurs when a proposed project impacts a much higher percentage of minority and low-income populations than other communities located within the project area or when the benefits and impacts are not evenly distributed between EJ and non EJ communities. The EJ study area includes communities in DeSoto County, including Southhaven City, Horn Lake City, Olive Branch City, and Lynchburg Census Designated Place (CDP), all in Mississippi.

Section 3
Affected Environment

DeSoto County, Mississippi is the study area for the flood risk management EJ analysis. For the purpose of this analysis, race, ethnicity, and income data for the county were obtained to determine if there was a high concentration of a minority or low-income population in the area of the Proposed Action. The Affected Environment section describes the low-income and minority and ethnic composition of larger areas within the study area, such as the County, City or Census Designated Place (CDP). Section 4, the Environmental Consequences section, refines the analysis and identifies EJ communities near project sites that may experience impacts from the flood risk reduction measures. Areas with high concentrations of minority or low-income populations are termed “environmental justice (EJ)” communities.

The county is majority white with 30 percent identifying as minority. The largest minority in the county identifies as Black/African American. The largest city in DeSoto County is Southaven, which is home to about 30 percent of the county population. Minority percentages (including Hispanic/Latino ethnicity) is between 327 and 53 percent of the population. Table M:2-1 provides census information for the study area.

Table M:2-1. Census Information: Minority Population in 2017 was $24,600 for a family of four. All of the cities and towns shown in Table M:2-2 also have well under 20 percent of population living below the poverty threshold. A majority of Horn Lake (city) residents identify as a racial or ethnic minority (53%).

Table M:2-2. Communities within Study Area: Low-Income Population

Location	Total Population*	Population having Income Below Poverty	Percent of Population Below Poverty
DeSoto County	171,725	16,778	9.8%
Southaven (city)	51,993	5,780	11.1%
Lynchburg CDP*	2,371	127	5.4%
Horn Lake (city)	26,587	4,058	15.3%
Olive Branch (city)	35,773	3,109	8.7%

*For Whom Poverty Status is Known
Source: U.S. Census Bureau ACS 2014-2018

Section 4
Environmental Consequences

EJ analyses identify and address, when appropriate, disproportionately high and adverse impacts of Federal agency actions on minority populations, low-income populations, and indigenous people. Public Involvement during scoping meetings is described in the existing conditions section (Draft IFR-EIS Section 2.4). Of primary concern is identifying high, adverse impacts and if they fall disproportionately on minority and/or low-income members of the community compared to the larger community and, if so, whether those community members would be "disproportionately high and adversely" affected by the project. If disproportionately high and adverse impacts are evident, guidance from the NEPA Committee and Federal Interagency Working Group on Environmental Justice (EJ IWG 2016) and the EPA (EPA 1998) advises Federal agencies to initiate consideration of alternatives and mitigation actions in coordination with extensive community outreach. Consistent with E.O. 12898 and the Federal Interagency Working Group on Environmental Justice guidance (EJ IWG 2016).

The Regional Planning and Environmental Division South conducted an EJ analysis focusing on the potential for disproportionately high and adverse impacts from the construction and normal operation of the proposed flood risk reduction system and the ecosystem restoration plan. A disproportionately high and adverse effect means the impact is appreciably more severe or greater in magnitude on minority or low-income populations than the adverse effect suffered by the non-minority or non-low-income populations after considering offsetting benefits. The EJ assessment found that no disproportionately high and adverse effects to environmental or human resources with any of the alternatives.

4.1 IMPACTS OF CONSIDERED ALTERNATIVES

No Action Alternative

Direct, Indirect, and Cumulative Impacts: Under the no action alternative, there would be no federal action (construction of flood risk reduction measures) and therefore there would be no additional impacts to minority or low-income communities. The study area would continue to experience damages from rainfall and roads would continue to experience flooding during high water events as they do today.

Alternative 7A: LPP, Extended Channel Enlargement, Lateral D, Rocky Creek, and Cow Pen Detention Sites and .04 AEP Nonstructural, and the NER Plan.

The LPP includes the HLC Extended Channel Enlargement, three detention basins, a 0.04 AEP (25-year) Nonstructural Plan and the NER plan. The detention basins would reduce the peak of high-water events and reduce residual flood risk. The LPP is estimated to produce nearly $4.5 million in average annual benefits, compared to the NED plan that would produce nearly $4.4 million average annual benefits.

The following is a discussion and identification of Minority and Low-Income Populations around the specific LPP measures and if the federal action results in high, adverse disproportionate EJ impacts:

HLC Channel Enlargement Extended:

The HLC Channel Enlargement Extended alternative would not result in disproportionate significant environment effects on minority or low-income populations. An area that is 0.5 miles around the channel enlargement was identified as the geographic area where potential construction-related disruptions may occur.

The population within 0.5 miles of the proposed channel enlargement is predominately white, with 28 percent of the population identifying as minority. The census block groups that are within 0.5 miles of the channel enlargement are not considered low-income, having less than 20 percent of the households living below poverty. Neither the minority percentage or the low-income percentage meet or exceed the thresholds (as described in the first paragraph of Section 2) that are used to identify EJ communities.

These construction disruptions are temporary. There are no permanent high, adverse direct or indirect impacts from the HLC Channel Enlargement.

Minority and Low-income areas within the larger study area would experience the flood risk reduction benefits associated with the improvement.

Three Detention Sites:

Cow Pen, Lateral D and Rocky Creek detention basins are considered as measures to reduce the risk of flooding in the study area. Detention basins are regional, below grade

structures, designed to attenuate flood peaks and release downstream at non-damaging flow rates.

The detention basin alternatives would not result in disproportionate significant adverse environment effects on minority or low-income populations. Only the area within 1.0 miles of the Lateral D detention basin is home to an EJ community. One-mile radius is used to identify EJ communities since the construction activities may be more substantial than those activities used for the channel enlargement.

Over 50 percent of the population within 1.0 miles of the Lateral D basin identifies as being minority. This area is not a low-income community with well under 20 percent households in the area having incomes below poverty. This community may experience temporary indirect impacts from the construction of the Lateral D basin and are not considered high, adverse impacts. Best Management Practices will be implemented that will minimize/reduce or avoid traffic and noise disturbances such as using traffic routes to reduce neighborhood disturbance or limiting construction activities to daytime to reduce noise impacts. There are no EJ communities within 1.0 miles of the other two basins.

Several environmental indicators as reported by EPA (see tables at the end of this Appendix) are elevated in the 1-mile radius around the detention ponds and 0.5 miles around the HLC Channel Enlargement. When an area has an elevation of an environmental indicator, care should be taken by the Federal agency to minimize construction related emissions. Specifically, diesel, particulate matter and ozone are all elevated in the four areas or are at or above the 80th percentile in the State. Best Management Practices will be utilized to avoid, minimize or reduce air quality impacts. Air quality in general is discussed in the Air Quality section of this report.

Additionally, all the lands needed for the detention basins are currently vacant of residential structures. Positive indirect impacts include a decrease in risk of flood damage for minority and/or low-income populations in the study area.

0.04 AEP Nonstructural Plan (NS):

At this time in the planning process, all structures within the 25-year flood zone are located in economically justified reaches and would be voluntarily flood-proofed or elevated; therefore, all residents within the reaches, irrespective of race, ethnicity, or income, would be able to choose to participate in the plan. These nonstructural measures may provide the sparsely populated area of minority and low-income populations with beneficial flood risk reduction equivalent to structural measures, which are not economically justifiable due to the sparse populations scattered over a large area. Despite existing base floor elevations differing among individual structures, structure-raising would provide the same level of risk reduction benefits per structure at year 2075 (end of the period of analysis).

How the implementation of the NS plan might impact low-income and minority communities is not yet known at this point in the planning process. The NS plan consists of elevating eligible residential structures in the 0.04 AEP (25-year) floodplain. An eligible structure is, among several criteria, one that is engineeringly sound and capable of being elevated.

Additionally, while the eligible structure is being elevated, residents of that structure are required to relocate to temporary quarters. Minority and low-income tenants living in rental properties may experience benefits if the property owner chooses to participate in the plan, and that under those circumstances they would not be responsible for temporary relocation costs.

Low-income owners will be responsible for the costs associated with the elevation--costs associated with having their structure repaired so it can be elevated or the relocation costs during elevation. Those residential structures not meeting the soundness criteria and owners who can't afford the repairs or who can't afford to relocate during elevation will remain at grade and would be exposed to higher risk for flooding. Although homeowners would be responsible for costs associated with repairs to ensure a structurally-sound home prior to elevation and would be responsible for temporary relocation costs during elevation, all other eligible costs of elevating structures, including the cost to elevate the structure, would not be borne by any single individual or the community; rather, these costs would be part of the proposed project costs.

The implementation plan for the NS alternative may cause high, adverse disproportionate impacts to low-income residents. A more refined assessment to identify high, adverse disproportionate impacts can be completed during PED (when housing not engineeringly-sound will be identified) and if necessary, develop a mitigation plan through public outreach of EJ communities and meetings.

National Ecosystem Restoration Plan (NER):

The NER plan would not result in disproportionate significant environmental effects on minority or low-income populations. There are no high, adverse impacts to any community occurring from the construction of the NER plan. Grade structures would be placed in streams in suburban/urban areas not impacting adjacent homeowners. Riparian plantings would take place along streams abutting agricultural lands or vacant lands. Indirect impacts would occur and relate to the materials and equipment used to construct the NER plan causing temporary minor construction-related impacts to nearby residents. Positive long-term benefits would accrue to the area from enhanced habitat creation and stabilization of the creeks.

Alternative 6B: NED, HLC Extended Channel Enlargement and Lateral D Detention Basin and 0.04 AEP Nonstructural Plan

The National Economic Development Plan (NED) includes a Horn Lake Creek (HLC) channel enlargement totaling approximately 0.8 mile and an approximately 22-acre detention basin along Lateral D. The channel enlargement would decrease the flood stages along Horn lake Creek, providing flood risk reduction for residential and commercial properties. Also part of Alternative 6B, the NED plan, is the 0.04 AEP NS plan.

The impacts from construction of the NED measures would be similar to the same measures described in the LPP but overall, less since the NED plan does not include the Cow Pen or Rocky Creek detention basins.

Alternative 6A: HLC Extended Channel Enlargement and Lateral D Detention Basin

Alternative 6A would not result in disproportionate significant adverse environment effects on minority or low-income populations. Alternative 6A would have the same impacts to EJ communities from construction of the same measures under Alternatives 6B, but less because 6A does not include the NS plan.

Alternative 5B: HLC Channel Enlargement Extended and 0.04 AEP Non-Structural Plan

Alternative 5B would have similar impacts to EJ communities from construction of the measures under Alternatives 6B, but less because 5B does not include the Lateral D Detention Basin.

Alternative 5A: HLC Channel Enlargement Extended

Alternative 5A would not result in disproportionate significant adverse environment effects on minority or low-income populations. As described for the HLC measure in the LPP plan, the area around the channel enlargement does not meet the criteria for an EJ community.

Alternative 4A: 0.04 AEP (25-year) Coldwater and HLC Basin NS Plan

Impacts from the NS plan for Alternative 4A would be similar to those described for the NS Plan that is part of the LPP plan.

Table M 3-1 Cow Pen Detention

EJSCREEN Report (Version 2019)

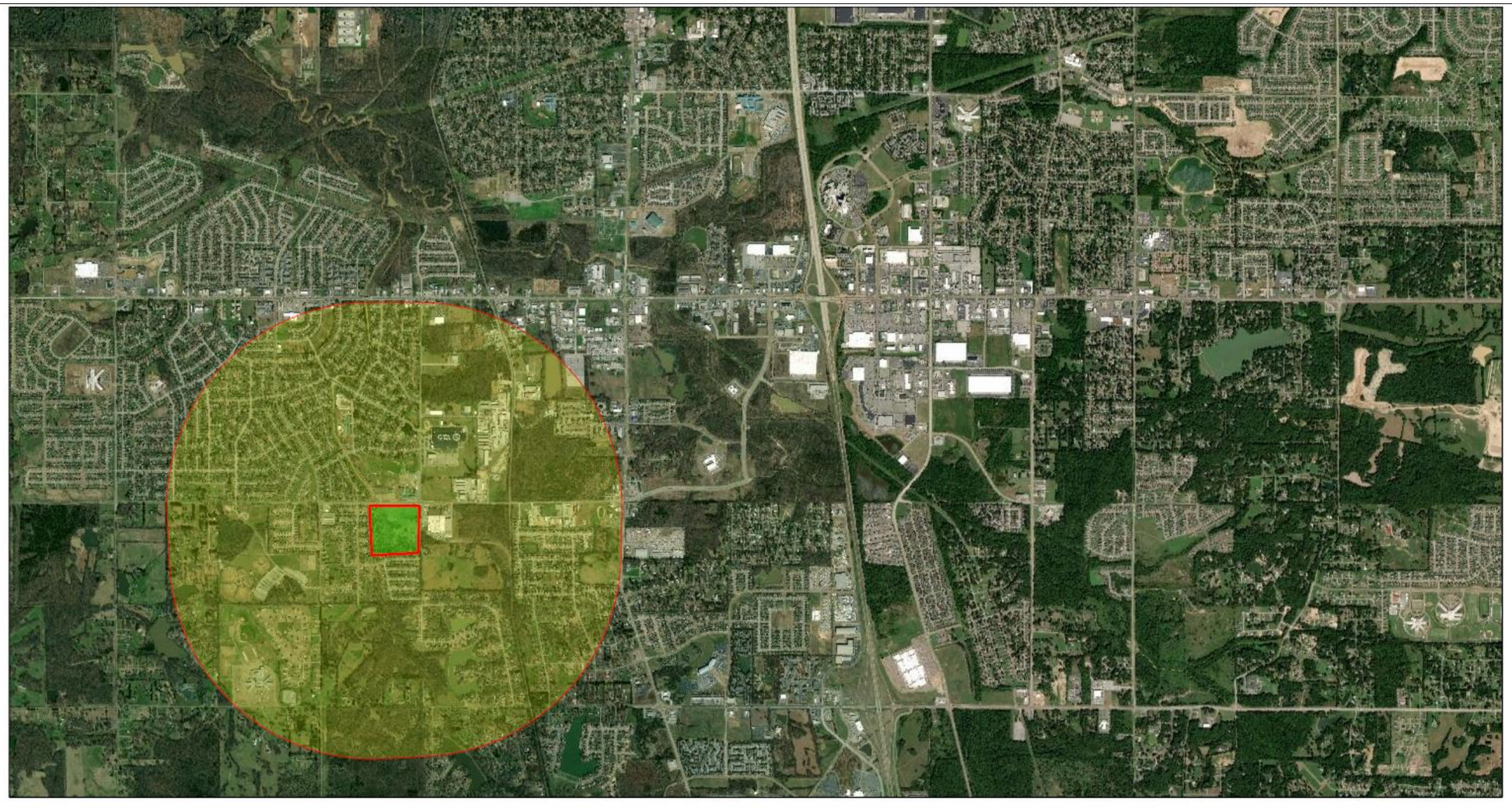
1 miles Ring around the Area
MISSISSIPPI, EPA Region 4
Approximate Population: 9,432
Input Area (sq. miles): 4.14
Cow Pen Site

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	65	70	73
EJ Index for Ozone	67	71	72
EJ Index for NATA* Diesel PM	75	72	72
EJ Index for NATA* Air Toxics Cancer Risk	63	69	73
EJ Index for NATA* Respiratory Hazard Index	63	69	73
EJ Index for Traffic Proximity and Volume	82	74	71
EJ Index for Lead Paint Indicator	57	68	67
EJ Index for Superfund Proximity	80	77	74
EJ Index for RMP Proximity	71	70	70
EJ Index for Hazardous Waste Proximity	73	69	66
EJ Index for Wastewater Discharge Indicator	87	88	85

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/USEJ IndexesPM 2.5OzoneNATA Diesel PMNATA Cancer RiskNATA Respiratory HITraffic ProximityLead Paint IndicatorSuperfund ProximityRMP ProximityHazardous Waste ProximityWastewater Discharge IndicatorPercentile0255075100

State Percentile Regional Percentile National Percentile

This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



January 14, 2020

Cow Pen Site

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

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

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	9.1	8.56	95	8.59	65	8.3	73
Ozone (ppb)	43.4	38	97	40	64	43	47
NATA* Diesel PM (µg/m^3)	0.435	0.263	89	0.417	60-70th	0.479	50-60th
NATA* Air Toxics Cancer Risk (risk per MM)	37	39	24	36	50-60th	32	70-80th
NATA* Respiratory Hazard Index	0.51	0.56	24	0.52	<50th	0.44	70-80th
Traffic Proximity and Volume (daily traffic count/distance to road)	190	120	80	350	61	750	47
Lead Paint Indicator (% pre-1960s housing)	0.04	0.16	24	0.15	37	0.28	25
Superfund Proximity (site count/km distance)	0.062	0.064	72	0.083	66	0.13	49
RMP Proximity (facility count/km distance)	0.29	0.54	66	0.6	55	0.74	48
Hazardous Waste Proximity (facility count/km distance)	0.18	0.27	68	0.52	51	4	33
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.0019	0.035	85	0.45	79	14	70
Demographic Indicators							
Demographic Index	47%	43%	60	38%	69	36%	71
Minority Population	48%	43%	61	38%	66	39%	65
Linguistically Isolated Population	3%	1%	89	3%	68	4%	61
Population with Less Than High School Education	17%	17%	56	13%	68	13%	72
Population under Age 5	7%	6%	60	6%	66	6%	63
Population over Age 64	8%	15%	17	16%	18	15%	22

*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA develop ed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More informatio n on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

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Table M 3-2 Lateral D Detention

EJSCREEN Report (Version 2019)

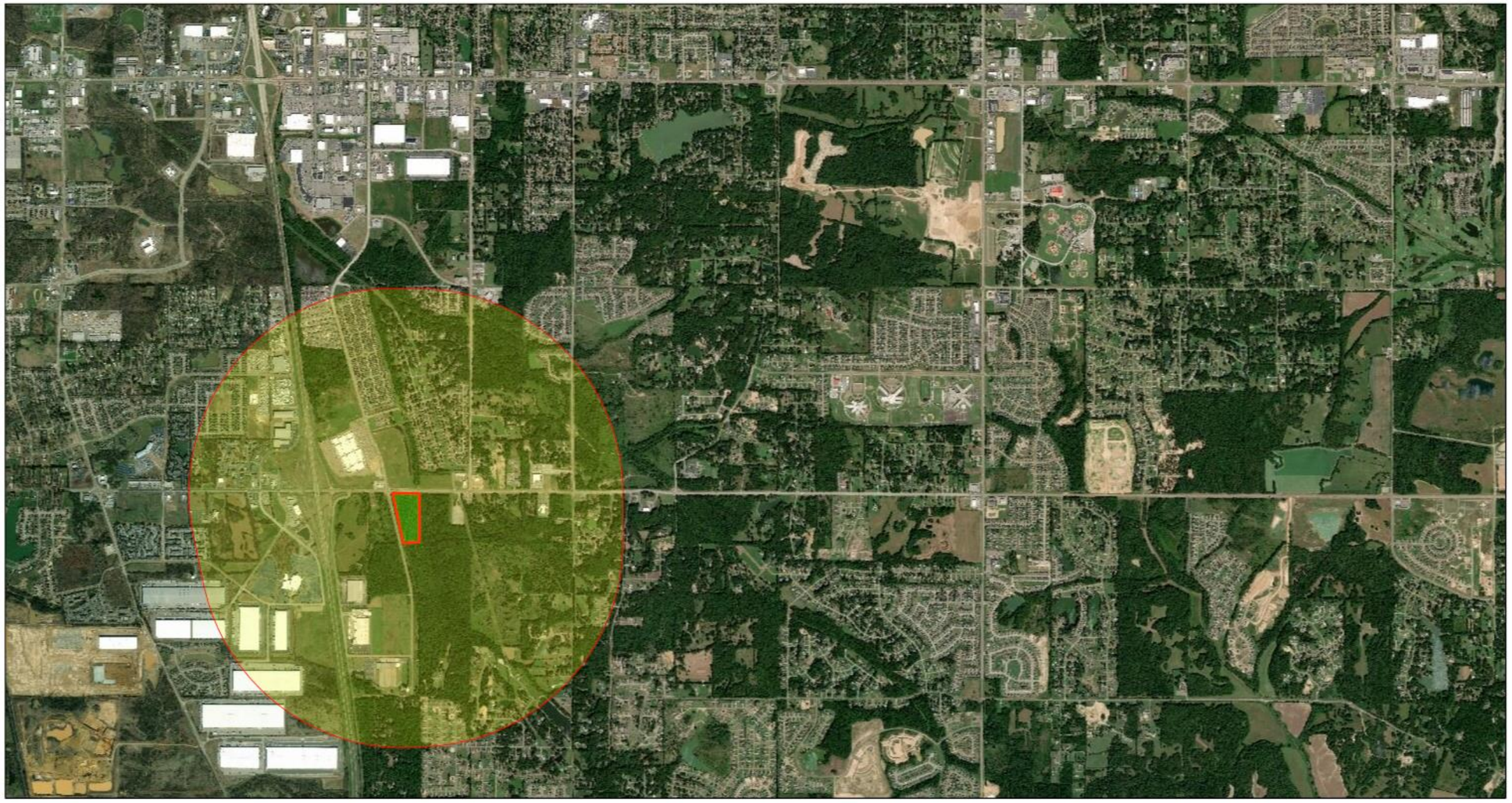
1 miles Ring around the Area
MISSISSIPPI, EPA Region 4
Approximate Population: 5,157
Input Area (sq. miles): 3.86
Airways and Church Rd.

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	80	80	82
EJ Index for Ozone	82	81	81
EJ Index for NATA* Diesel PM	90	81	81
EJ Index for NATA* Air Toxics Cancer Risk	77	79	82
EJ Index for NATA* Respiratory Hazard Index	76	78	82
EJ Index for Traffic Proximity and Volume	96	88	84
EJ Index for Lead Paint Indicator	65	74	72
EJ Index for Superfund Proximity	86	83	79
EJ Index for RMP Proximity	76	73	73
EJ Index for Hazardous Waste Proximity	83	75	71
EJ Index for Wastewater Discharge Indicator	89	90	86

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/USEJ IndexesPM 2.5OzoneNATA Diesel PMNATA Cancer RiskNATA Respiratory HITraffic ProximityLead Paint IndicatorSuperfund ProximityRMP ProximityHazardous Waste ProximityWastewater Discharge IndicatorPercentile0255075100

State Percentile Regional Percentile National Percentile

This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and de mographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data valu e represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given l ocation is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainti es apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



January 14, 2020

Airways and Church Rd.

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

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

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	9.08	8.56	93	8.59	64	8.3	73
Ozone (ppb)	43.5	38	97	40	64	43	48
NATA* Diesel PM (µg/m^3)	0.493	0.263	93	0.417	70-80th	0.479	60-70th
NATA* Air Toxics Cancer Risk (risk per MM)	38	39	34	36	60-70th	32	70-80th
NATA* Respiratory Hazard Index	0.52	0.56	28	0.52	50-60th	0.44	70-80th
Traffic Proximity and Volume (daily traffic count/distance to road)	480	120	94	350	80	750	67
Lead Paint Indicator (% pre-1960s housing)	0.043	0.16	25	0.15	38	0.28	25
Superfund Proximity (site count/km distance)	0.058	0.064	70	0.083	64	0.13	47
RMP Proximity (facility count/km distance)	0.2	0.54	57	0.6	44	0.74	38
Hazardous Waste Proximity (facility count/km distance)	0.19	0.27	69	0.52	52	4	34
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.00081	0.035	80	0.45	75	14	65
Demographic Indicators							
Demographic Index	50%	43%	64	38%	72	36%	74
Minority Population	54%	43%	66	38%	71	39%	69
Linguistically Isolated Population	1%	1%	81	3%	52	4%	46
Population with Less Than High School Education	6%	17%	17	13%	28	13%	35
Population under Age 5	8%	6%	69	6%	74	6%	71
Population over Age 64	9%	15%	22	16%	22	15%	26

*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA develop ed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More informatio n on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

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Table M 3-3 Rocky Creek Detention

EJSCREEN Report (Version 2019)

1 miles Ring around the Area
MISSISSIPPI, EPA Region 4
Approximate Population: 11,086
Input Area (sq. miles): 3.96
Rasco Rd at Rocky Creek

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	22	31	32
EJ Index for Ozone	21	31	35
EJ Index for NATA* Diesel PM	11	25	27
EJ Index for NATA* Air Toxics Cancer Risk	24	30	28
EJ Index for NATA* Respiratory Hazard Index	25	31	27
EJ Index for Traffic Proximity and Volume	7	17	25
EJ Index for Lead Paint Indicator	31	37	47
EJ Index for Superfund Proximity	14	19	28
EJ Index for RMP Proximity	12	22	25
EJ Index for Hazardous Waste Proximity	7	18	29
EJ Index for Wastewater Discharge Indicator	22	27	34

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/USEJ IndexesPM 2.5OzoneNATA Diesel PMNATA Cancer RiskNATA Respiratory HITraffic ProximityLead Paint IndicatorSuperfund ProximityRMP ProximityHazardous Waste ProximityWastewater Discharge IndicatorPercentile0255075100

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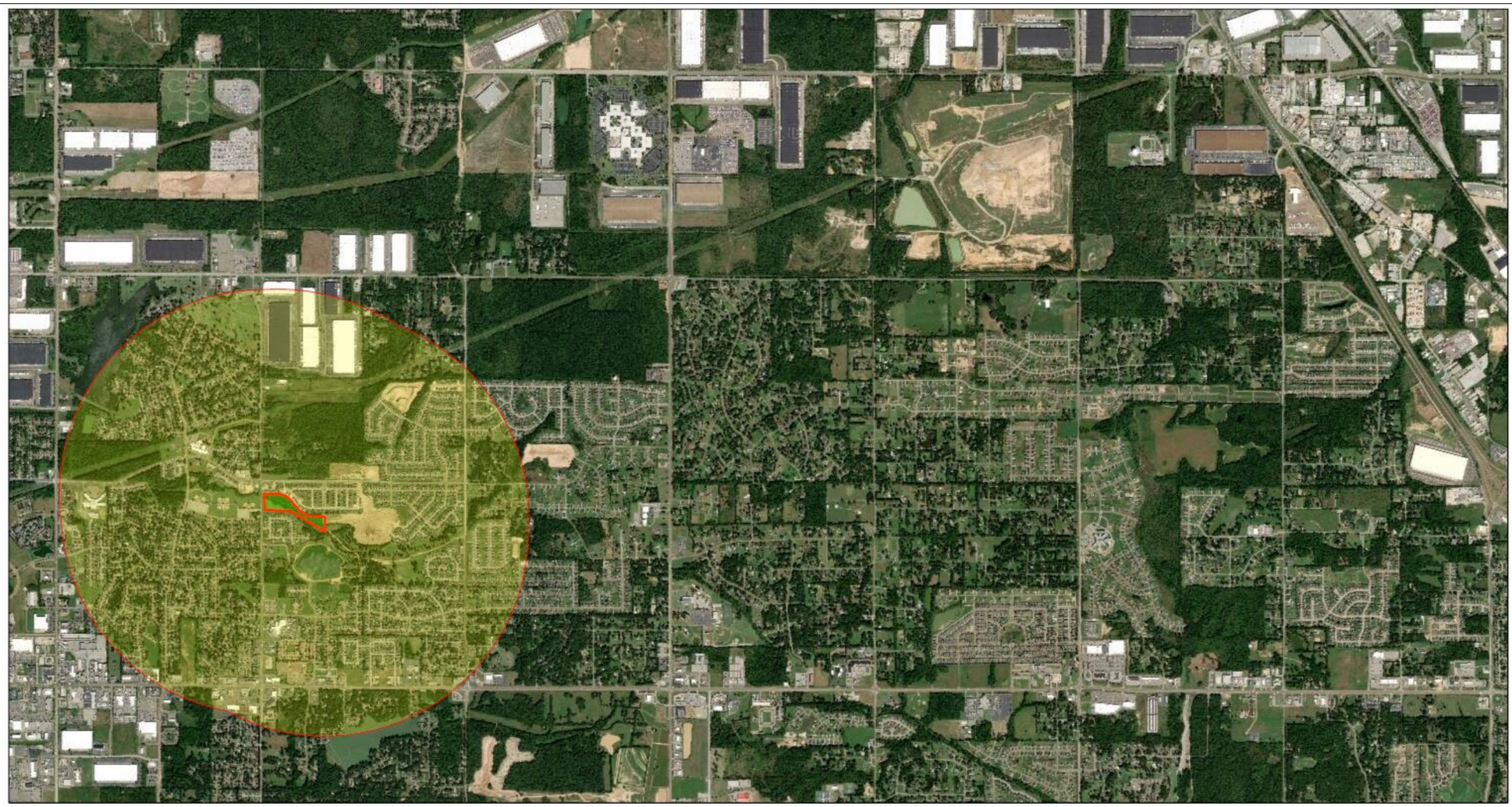

January 14, 2020

Rasco Rd at Rocky Creek

1:36,112

0 0.38 0.75 1.5 mi

0 0.5 1 2 km

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

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	9.14	8.56	98	8.59	66	8.3	74
Ozone (ppb)	43.8	38	99	40	67	43	50
NATA* Diesel PM (µg/m^3)	0.457	0.263	90	0.417	60-70th	0.479	50-60th
NATA* Air Toxics Cancer Risk (risk per MM)	38	39	41	36	60-70th	32	70-80th
NATA* Respiratory Hazard Index	0.52	0.56	31	0.52	50-60th	0.44	70-80th
Traffic Proximity and Volume (daily traffic count/distance to road)	190	120	80	350	61	750	47
Lead Paint Indicator (% pre-1960s housing)	0.024	0.16	16	0.15	28	0.28	19
Superfund Proximity (site count/km distance)	0.074	0.064	79	0.083	71	0.13	56
RMP Proximity (facility count/km distance)	0.39	0.54	71	0.6	61	0.74	55
Hazardous Waste Proximity (facility count/km distance)	0.4	0.27	84	0.52	69	4	48
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	2.2E-06	0.035	44	0.45	49	14	42
Demographic Indicators							
Demographic Index	30%	43%	34	38%	43	36%	49
Minority Population	34%	43%	46	38%	53	39%	54
Linguistically Isolated Population	1%	1%	81	3%	52	4%	46
Population with Less Than High School Education	12%	17%	36	13%	52	13%	59
Population under Age 5	6%	6%	43	6%	49	6%	47
Population over Age 64	12%	15%	35	16%	36	15%	40

*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

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Table M 3-4 Horn Lake Creek Channel Enlargement

EJSCREEN Report (Version 2019)

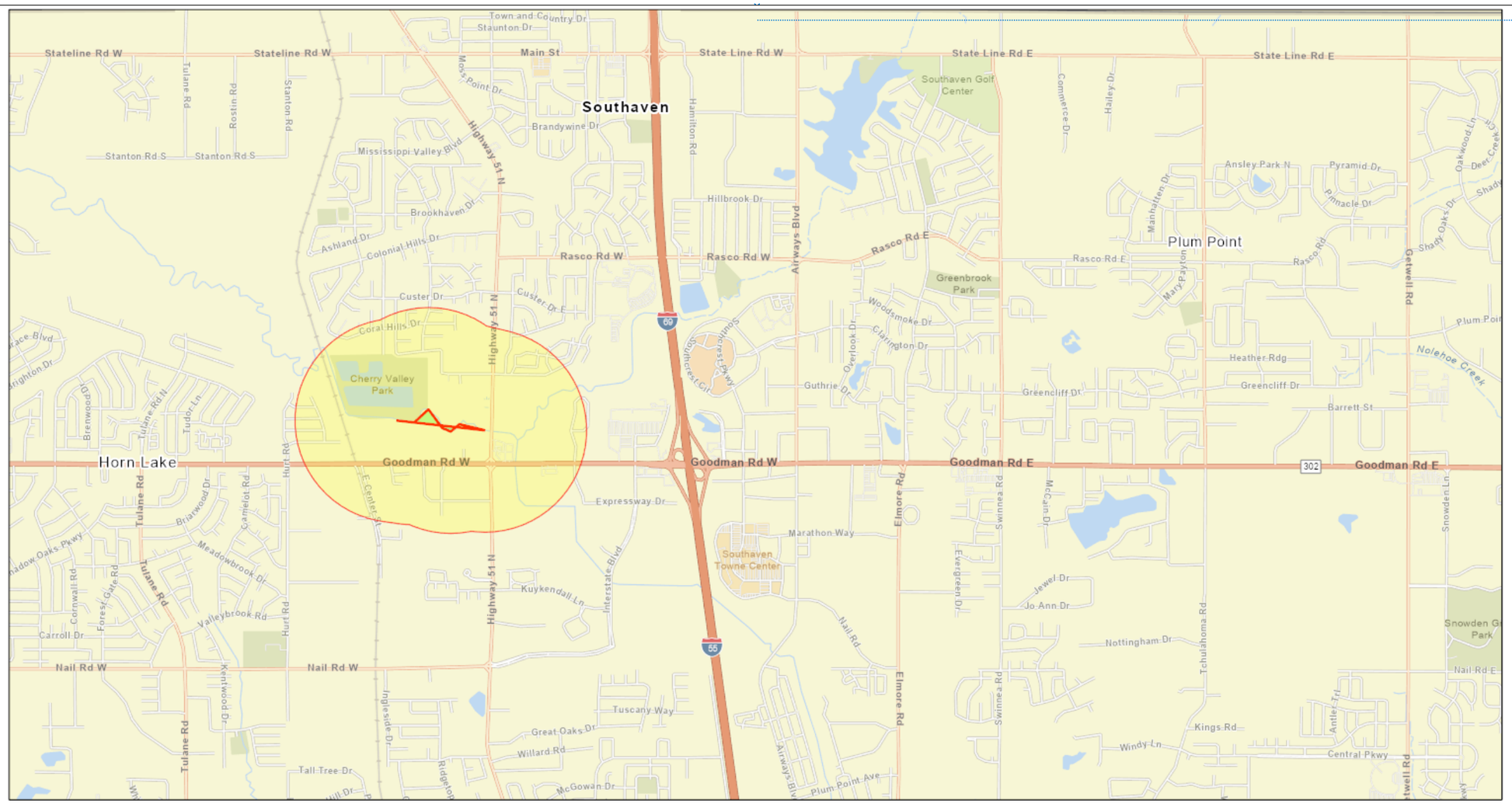
0.5 miles Ring around the Area
MISSISSIPPI, EPA Region 4
Approximate Population: 1,197
Input Area (sq. miles): 0.87
HCL Channel Enlargement

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	45	55	59
EJ Index for Ozone	45	55	59
EJ Index for NATA* Diesel PM	48	56	60
EJ Index for NATA* Air Toxics Cancer Risk	45	55	59
EJ Index for NATA* Respiratory Hazard Index	45	55	59
EJ Index for Traffic Proximity and Volume	68	63	63
EJ Index for Lead Paint Indicator	37	44	51
EJ Index for Superfund Proximity	47	56	59
EJ Index for RMP Proximity	51	58	61
EJ Index for Hazardous Waste Proximity	57	60	61
EJ Index for Wastewater Discharge Indicator	82	85	82

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/USEJ IndexesPM 2.5OzoneNATA Diesel PMNATA Cancer RiskNATA Respiratory HITraffic ProximityLead Paint IndicatorSuperfund ProximityRMP ProximityHazardous Waste ProximityWastewater Discharge IndicatorPercentile0255075100

State Percentile Regional Percentile National Percentile

This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and de mographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data valu e represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given l ocation is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainti es apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



April 30, 2020

HCL Channel Enlargement

1:36,112

0 0.38 0.75 1.5 mi
0 0.5 1 2 km

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Commented [CCALCUC(1]: This channel enlargement line looks a little off. I can provide a kmz, but may not be incorporated into the draft.

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
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NATA* Respiratory Hazard Index	0.55	0.56	46	0.52	60-70th	0.44	70-80th
Traffic Proximity and Volume (daily traffic count/distance to road)	250	120	84	350	67	750	53
Lead Paint Indicator (% pre-1960s housing)	0.079	0.16	41	0.15	50	0.28	34
Superfund Proximity (site count/km distance)	0.075	0.064	79	0.083	71	0.13	56
RMP Proximity (facility count/km distance)	0.84	0.54	82	0.6	77	0.74	72
Hazardous Waste Proximity (facility count/km distance)	0.42	0.27	84	0.52	70	4	48
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.0009	0.035	81	0.45	76	14	65
Demographic Indicators							
Demographic Index	35%	43%	42	38%	53	36%	57
Minority Population	28%	43%	39	38%	46	39%	48
Linguistically Isolated Population	0%	1%	81	3%	52	4%	45
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*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

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