

North Carolina Department of Environmental Quality
September 28, 2023

Sapphire Renewable Natural Gas Environmental Justice Report

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Executive Summary

Facility Location:

Sapphire Renewable Natural Gas

Address: 7424 Roseboro Highway, Roseboro, NC 28382

An approximate one-mile radius around the facility footprint and address provided was used for the analysis:

- **County:** The address is in Sampson County.
- **Census Tracts:** The address is in census tract 9705.02. An approximate one-mile radius includes portions of census tracts 9709 and 9704.02 according to the 2020 census boundaries.

Overview:

An approximate one-mile radius around the facility footprint and address provided was used for the analysis.

- **Potentially Underserved Community:** This site is located within one mile of a block group identified as potentially underserved based on DEQ's definition¹ (See Map 3). DEQ recommends consulting the Enhanced Engagement Methods to Reach Underserved Communities section of DEQ's Public Participation Plan.²
- **Poverty:** A population experiencing poverty (>20%) resides in two of three census tracts near the facility. On average, 21.4% of the population in Sampson County is below the poverty level.
- **Race/Ethnicity:** In one of the three census tracts near the facility, the population is > 50% minority. Black or African American, Hispanic or Latino, and Indigenous populations largely make up higher than County or State proportions near the facility.
- **Tribe:** The Coharie Tribe is a state-recognized Tribe which resides, in part, in Sampson County. While the one-mile radius area does not intersect a Tribal statistical area, it is approximately 3 miles from a tribal statistical area and sociodemographic data indicate Indigenous populations may reside near the facility. DEQ recommends reaching out directly to the Coharie Tribe leadership.
- **Limited English Proficiency:** The site is an area with limited English proficiency (>5% of the population likely speaks Spanish. DEQ recommends any company and any state or local government consult DEQ's Limited English Proficiency Language Access Plan and conduct outreach in both English and Spanish.

¹ *Racial composition:* Share of nonwhites is over fifty percent OR Share of nonwhites is at least ten percent higher than county or state share. AND *Poverty rate:* Share of population experiencing poverty is over twenty percent AND Share of households in poverty is at least five percent higher than the county or state share.

² DEQ 2022 Public Participation Plan: <https://deq.nc.gov/ej/deq-public-participation-plan-2022-update/download?attachment>

- **Health:** Sampson County key health indicators for lung cancer, heart disease, cardiovascular disease, and diabetes deaths were all higher compared to the same indicators for all of North Carolina.
- **Cumulative Impact Potential:** There are 19 existing permits and 2 incidents within one mile of the site that could contribute to cumulative impacts to sensitive receptors within and outside the one-mile buffer.

1 Introduction

It is the policy of DEQ that no person shall, on the grounds of race, religion, color, national origin, ethnicity, sex, pregnancy, gender identity or expression, sexual orientation, age, political affiliation, National Guard or veteran status, genetic information, or disability be excluded from participation in, be denied the benefits of employment, or be subjected to discrimination.

Environmental justice (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 (US EPA).

EPA defines overburdened communities as a minority, low-income, tribal or indigenous populations, or geographic locations in the United States that potentially experience disproportionate environmental harms and risks. Disproportionality can result in greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative environmental, health, economic, or social conditions within these populations or places. The term environmental justice describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities.

The primary goal of this Draft EJ Report is to encourage comments and suggestions from the surrounding community, industry, and environmental groups throughout the comment period. Public comments will be considered throughout the remainder of the comment period to inform the Final EJ Report.

2 Environmental Justice Evaluation

The Department of Environmental Quality (DEQ or Department) has assessed the historical context, current permit conductions, and the demographics of the communities in the area surrounding the facility. Accordingly, this Draft EJ Report includes:

- Pertinent permit information
- Facility history overview
- Study of area demographics [determined by utilizing the US EPA Environmental Justice tool (EJSCREEN) <https://ejscreen.epa.gov/mapper/> and current, available census data. <https://data.census.gov/cedsci/>]

- Comparison of local area demographics to the county and statewide census data
- County health assessment
- Sensitive receptors in the surrounding area
- Local industrial sites (using the NCDEQ Community Mapping System: <https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=1eb0fbe2bcfb4cccb3cc212af8a0b8c8>)
- Outreach recommendations

3 Proposed Project

Sapphire Renewable Natural Gas submitted an application (No. 8200159.22A) for an air quality permit to construct and operate a facility that will accept landfill gas from the active landfill at Sampson County Disposal, LLC and process it into renewable natural gas (RNG). This gas is comprised of mostly methane that has a heating value comparable to pipeline natural gas.

Sampson County Disposal, LLC and Sapphire Renewable Natural Gas are considered parts of a single stationary source for Title V purposes because both facilities are owned by the same parent company, GFL Environmental Inc. Therefore, issuance of a new construction and operation permit for Sapphire Renewable Natural Gas is considered a significant modification of an existing Title V stationary source as defined in 15A NCAC 02Q .0500. Sapphire Renewable Natural Gas has requested a separate Title V permit be issued in its name as opposed to being combined into the existing Title V permit for Sampson County Disposal, LLC.

Upon initial startup, the facility plans to compress the RNG into specially designed mobile trailers and transport it to a pipeline injection station. Once injected, the RNG will be distributed to end users as a substitute for fossil fuel-derived natural gas.

The facility will be comprised of the following:

Emission Source ID No.	Emission Source Description	Control Device Description
ES-RNG_Plant	Landfill Gas to Renewable Natural Gas Processing Plant consisting of: <ul style="list-style-type: none"> • Compression/chiller system • Pressure swing adsorption system 	One waste gas thermal oxidizer One backup open type candlestick flare Sulfur Treatment System with two activated carbon vessels with lead-lag configuration

Sapphire Renewable Natural Gas will not be subject to any National Emissions Standards for Hazardous Air Pollutants (NESHAP) or New Source Performance Standards (NSPS) federal regulations. The facility evaluated its toxic air pollutant (TAP) emissions, and those of benzene,

hydrogen chloride, and vinyl chloride were above the Toxics Permitting Emissions Rates (TPERs) in 15A NCAC 02Q .0711. Dispersion modeling performed for these three TAPs showed each was less than 1% of the respective Acceptable Ambient Limit (AAL).

Expected actual emissions of regulated pollutants after controls from Sapphire Renewable Natural Gas during normal operation are provided in Table 1.

Table 1. Facility Emissions Overview

Pollutant	Expected Actual Emissions (tons/year)
Carbon Monoxide (CO)	42.74
Nitrogen Oxides (NOx)	10.79
Particulate Matter (PM ₁₀ /PM _{2.5})	2.86
Sulfur Dioxide (SO ₂)	5.25
Volatile Organic Compounds (VOC)	4.20
Total Hazardous Air Pollutants (HAP)	7.10
Highest Individual HAP Hydrogen chloride (HCl)	6.3

Due to concerns regarding the presence of per- and polyfluoroalkyl substances (PFAS) at the Sampson County Disposal, LLC landfill, the air quality permit for Sapphire Renewable Natural Gas will include a state-enforceable-only condition for the disclosure of information relating to emissions of fluorinated chemicals. Additionally, the permit will include a condition requiring an initial sampling test of the inlet landfill gas for the presence of PFAS.

4 Geographic Area

The Sapphire Renewable Natural Gas facility is located at 7424 Roseboro Highway, Roseboro, NC 28328 (Figure 1), the location of the existing Sampson County C&D Landfill (Site B) (active Solid Waste Permit 8202-CDLF-1996). The facility is located in Sampson County, Census Tract 9705.02 with a one-mile radius intersecting additional Census Tract 9704.02 and 9709 (Figure 1).

Census tracts are small, relatively permanent statistical subdivisions of a county with a unique numeric code (US Census Bureau). A state-designated Tribe resides in Sampson County and the facility is approximately 3 miles from the nearest tribal statistical area.

This draft Environmental Justice Report evaluates the sociodemographic and environmental conditions in Sampson County, in Census Tracts 9705.02, 9709 and 9704.02 as well as the one-mile radius around the property boundary of the existing Sampson County C&D Landfill. County and Census Tracts were identified based on intersection with the one-mile radius around the property boundary. Finally, the sociodemographic data of the Census Tracts and one-mile radius

area were compared to County and State sociodemographic data. County sociodemographic data were also compared to the State sociodemographic data.

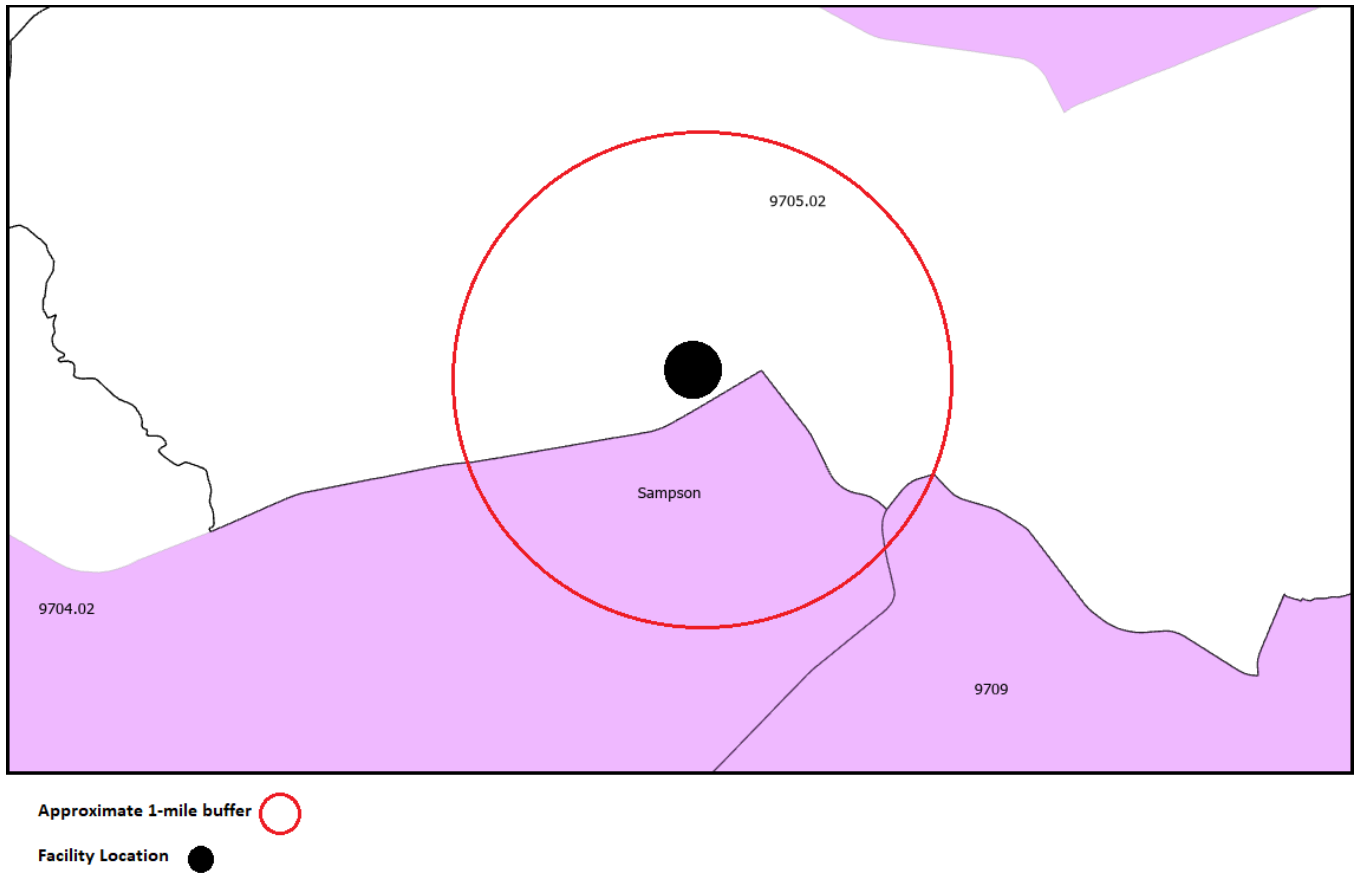


Figure 1. Facility Location: Facility location (point) with approximate one-mile buffer (red), potentially underserved community (pink) and labeled 2020 census tracts and County.

5 Sociodemographic Analysis

The following sections on race and ethnicity, age and sex, disability, poverty and household income, and Limited English Proficiency (LEP) populations are based on the most recent U.S. Census Bureau data at the state, county, census tract, and project-one-mile radius geographic scales.

U.S. Census Definitions for Demographic and Socioeconomic Variables Considered -

- **Race** – a person’s self-identification with one or more social groups. An individual can report as White, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, or some other race.
- **Age and Sex** – Age is the length of time in completed years that a person has lived. Sex refers to a person’s biological sex.

- **Disability** – A long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home along or to work at a job or business.
- **Income** – The money income received on a regular basis (exclusive of certain money receipts such as capital gains and lump-sum payments) before payments for personal income taxes, social security, union dues, Medicare deductions, etc.
- **Poverty** – A set of money income thresholds that vary by family size and composition to determine who is in poverty. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family (and every individual in it) or unrelated individual is considered in poverty.
- **Limited English Proficiency (LEP)**– The language currently used by respondents at home, either “English only” or a non-English language which is used in addition to English or in place of English.
- **Minority** - population of people who are not single-race white and not Hispanic. Populations of individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

Using standard environmental justice guidelines from the EPA and NEPA documentation, the following conditions are highlighted as communities with the potential for environmental justice concerns (across State, County, Census Tract, and Facility Area geographic scales):

1. Percentage increase of 10% or more compared to the County and/or State for minority race, age and sex, or disability.
2. 50% or more minority (non-white) population
3. Share of population experiencing poverty is 20% or more
4. Percentage increase of 5% or more compared to the County and/or State average for poverty.
5. Percentage decrease of 10% or more compared to the County and/or State for household income brackets.
6. At least 5% of the population or 1000 people (whichever is smaller) speaks English less than very well

Sociodemographic data for Sampson County and the State are compared to the local (census tract and project one-mile radius) geographic scales to identify any disparities surrounding the project area using standard environmental justice guidelines from the EPA and National Environmental Policy Act (NEPA) documentation.

Data at the county geographic scale are compared to the state geographic scale and the local geographic scales are compared to the county and state geographic scales to identify disparities surrounding the project area. Local geographic scales include selected census tracts which intersect the one-mile radius around the approximate facility footprint as well as the area inclusive of the one-mile radius around the facility.

Percentage Increase Example:

If a census tract has 35% of the population classified as low income and the county consists of 30% low income, the census tract's proportion of low-income population would exceed the county proportion of low-income population by 16.7% and thus be flagged as an area with the potential for having environmental justice concerns.

American Community Survey Data from the U.S. Census: This report uses the most recent 5-year estimates from the American Community Survey data, when possible. When 5-year estimates are not available, this report uses 2020 or 2010 redistricting data, whichever is most current. Data were retrieved from data.census.gov. The U.S. Census indicates that the primary advantage of using multiyear estimates is the increased statistical reliability of the data for less populated areas and small population subgroups. The margin of error (MOE) has been included, when provided, and is a measure of the possible variation of the estimate around the population value (U.S. Census Bureau). The smaller the geographic unit, the larger the MOE becomes (generally). The Census Bureau standard for the MOE is at the 90% confidence level and may be any number between 0 and the MOE value in either direction (indicated by +/-). For example, an estimated value of 30% with a MOE of 10% indicates that the actual value is highly likely to be any value between 20% and 40%.

Census Tracts identified are from the 2020 Census. In North Carolina, there were additional Census Tracts added to the state compared to the 2010 Census.

Sociodemographic data for the area inclusive of a one-mile radius around the facility are estimated using EJScreen ([EJScreen.epa.gov](https://ejscreen.epa.gov)). EJScreen provides an estimate of sociodemographic indicators based on a population-weighted average.

5.1 Race and Ethnicity

Summary of Environmental Justice Indicators:

1. Is there a percentage increase of 10% or more compared to the county and/or state for a minority race or ethnicity?
 - Facility Area (1-mile radius): Yes, for Black or African American, American Indian or Alaska Native, Two or More Races, Some Other Race, and Hispanic or Latino (of any race), two or more races, and Two or More Races
 - Census tract 9704.02: Yes, for Black or African American, American Indian or Alaska Native and some other race
 - Census tract 9705.02: Yes, for Black or African American, American Indian or Alaska Native, Asian, and Hispanic or Latino (of any race)
 - Census tract 9709: Yes, for Black or African American and Hispanic or Latino (of any race)

2. Is there a census tract for which there is 50% or more minority (non-white)?
 - Yes, Census Tract 9709 is 44% White.

Regional Setting

According to the 2020 US Census Data Table P2: Hispanic or Latino, and Not Hispanic or Latino by Race, North Carolina's population totaled 10,439,388 individuals (Table 2). The three most common racial groups across the state were White (60.5%), Black or African American (20.2%), and Hispanic or Latino (of any race) (10.7%).

Sampson County had a total population of 59,036 individuals (Table 2). The two most common racial or ethnic groups in Sampson County were White (not Hispanic or Latino) (50%) and Black or African American (24%). The proportional population of Black or African American and American Indian or Alaska Native were at least 10% higher compared to proportional population of the same Race or Ethnicity in the state of North Carolina.

Table 2. Regional Setting - Race and Ethnicity

Race and Ethnicity	North Carolina		Sampson County	
	Number	Percent	Number	Percent
Total Population	10,439,388	100.0%	59,036	100%
White	6,312,148	60.5%	29,729	50%
Black or African American	2,107,526	20.2%	13,944	24%
American Indian or Alaska Native	100,886	1.0%	1,002	2%
Asian	340,059	3.3%	216	0%
Native Hawaiian and Other Pacific Islander	6,980	0.1%	18	0%
Some other Race	46,340	0.4%	156	0%
Two or More Races	406,853	3.9%	1,722	3%
HISPANIC OR LATINO (of any race)	1,118,596	10.7%	12,249	20.7%
Source: US Census Bureau, 2020 Census				
All bolded and orange highlighted cells indicate a percentage increase of 10% or more in the County compared to the State				

Local Setting

According to the 2020 US Census Data Table P2: the largest population within Census Tract 9704.02 was White (not Hispanic or Latino) (50.6%). Black or African American and Two or More Races populations were at least 10% higher compared to the state and Sampson County populations; American Indian or Alaska Native population was at least 10% higher compared to Sampson County. (Table 3)

The largest population within Census Tract 9705.02 was White (not Hispanic or Latino) (50%). Black or African American and Hispanic or Latino populations were at least 10% higher than the state of North Carolina populations. Asian populations were at least 10% higher than Sampson County populations. (Table 4)

The largest population within Census Tract 9709 was White (not Hispanic or Latino) (44.7%) and Black or African American (32.4%). Hispanic or Latino (of any race) population was at least 10% higher when compared to the state of North Carolina population. Black or African American population was at least 10% higher compared to both the State of North Carolina and Sampson County populations.

Within the one-mile project radius, the largest population was White (not Hispanic or Latino) (63%) and Hispanic or Latino (27%). American Indian or Alaska Native, Some other Race, and Hispanic or Latino (of any race) populations were at least 10% higher when compared to the State and Sampson County populations. (Table 3)

Table 3. Local Setting - Race and Ethnicity

Race and Ethnicity	Project Area - 1 Mile		Census Tract 9704.02	
	Number	Percent	Number	Percent
Total Population	430	100.0%	2,801	100.0%
White	269	63%	1,416	50.6%
Black or African American	75	17%	932	33.3%
American Indian or Alaska Native	38	9%	37	1.3%
Asian	0	0.0%	13	0.5%
Native Hawaiian and Other Pacific Islander	0	0.0%	0	0.0%
Some other Race	18	4%	7	0.2%
Two or More Races	31	7%	121	4.3%
HISPANIC OR LATINO (of any race)	117	27%	275	9.8%

Source: US Census Bureau, 2020 Census, EJ Screen
 All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 4. Local Setting - Race and Ethnicity (cont'd)

Race and Ethnicity	Census Tract 9705.02		Census Tract 9709	
	Number	Percent	Number	Percent
Total Population	4,198	100%	2,976	100.0%
White	2,107	50.2%	1,330	44.7%
Black or African American	1,075	25.6%	963	32.4%
American Indian or Alaska Native	88	2.1%	25	0.8%
Asian	13	0.3%	12	0.4%
Native Hawaiian and Other Pacific Islander	2	0.0%	0	0.0%
Some other Race	17	0.4%	0	0.0%
Two or More Races	110	2.6%	75	2.5%
HISPANIC OR LATINO (of any race)	786	18.7%	571	19.2%

Source: US Census Bureau, 2020 Census
 All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

5.2 Age and Sex

Summary of Environmental Justice Indicators:

1. Is there a percentage increase of 10% or more compared to the county and/or state for age and/or sex?
 - Facility Area (1-mile radius): Yes, the male population is at least 10% higher compared to the state and county. EJSCREEN does not calculate age.
 - Census tract 9705: No.
 - Census tract 9704: No.
 - Census tract 9709: No.

Regional Setting

According to the 2010 US Census Data Table P12: Sex by Age, and Table P13: Median Age, North Carolina had a total population of 9,535,483 individuals (Table 5)³. The state's median age for females (38.7 years) was slightly older than the median age for males (36 years).

Sampson County had a total population of 63,431 individuals. The median age for females (39.4) was slightly higher than the median age for males (36.9). The median age for both sexes was older than the median age for the state. (Table 5)

³ 2010 US Census Data was used for Age & Sex because 2020 US Census for Age & Sex are not yet available from the US Census Bureau.

Table 5. Regional Setting - Age Groups and Sex

Age	North Carolina						Sampson County					
	Number			Percent			Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population	9,535,483	4,645,492	4,889,991	100%	49%	51%	63,431	31,108	32,323	100.0%	49%	51%
Median Age	37.4	36	38.7				38.2	36.9	39.4			
Source: US Census Bureau, 2010 Census All bolded and orange highlighted cells indicate a percentage increase of 10% or more in the County compared to the State												

Local Setting

According to the 2010 US Census Data Table P12: Sex by Age, and Table P13: Median Age, EJSCREEN identified a population of 430 within the one-mile buffer surrounding the facility. The male population was at least 10% higher compared with the State and Sampson County population (Table 9). EJSCREEN does not provide median age data.

Census Tracts 9705.02 and 9704.02 were created in the 2020 Census. As such, Census Tracts 9705 and 9704 from the 2010 Census were used for the following analysis.

Census Tract 9704 had a total population of 5,315 and a median age of 40.7 years and 51% female (Table 6). Age and sex were not at least 10% higher compared to State or County data.

Census Tract 9705 had a total population of 5,933 and a median of 838.7 years and 51% female (Table 7). Age and sex were not at least 10% higher compared to State or County data.

Census Tract 9709 had a total population of 3,161 and median age of 38.9 years and 52% female (Table 8). Age and sex were not at least 10% higher compared to the state or Sampson County data.

Table 6. Local Setting - Age Groups and Sex

Age	Census Tract 9704					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	5,315	2,588	2,727	100%	49%	51%
Median Age	40.7	39.5	41.9			

Source: US Census Bureau, 2010 Census

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 7. Local Setting - Age Groups and Sex (cont'd)

Age	Census Tract 9705					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	5,933	2,920	3,013	100%	49%	51%
Median Age	38.7	37.9	39.4			

Source: US Census Bureau, 2010 Census

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 8. Local Setting - Age Groups and Sex (cont'd)

Age	Census Tract 9709					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	3,161	1,526	1,635	100%	48%	52%
Median Age	38.9	36.9	40.8			

Source: US Census Bureau, 2010 Census

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 9. Local Setting - Age Groups and Sex (cont'd)

Age	Project Area - 1 Mile					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	430	248	182	430	58%	42%

Source: EJ Screen

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

5.3 Disability

Summary of Environmental Justice Indicators:

1. Is there a percentage increase of 10% or more compared to the county or state's total population⁴ with a disability?
 - Facility Area (1-mile radius): The facility area was not assessed because EJScreen does not provide statistics on disability.
 - Census tract 9705.02: No, not for total population.
 - Census tract 9704.02: Yes, the total population with a disability is higher compared to the State and Sampson County.
 - Census tract 9709: No, not for total population.

Regional Setting

According to the 2020 American Community Survey 5-Year Estimates, Table S1810 Disability Characteristics from the US Census Bureau, the state of North Carolina had an estimated total population of 10,178,084 noninstitutionalized citizens. Of those individuals, an estimated 13.4% (+/- 0.1%) had a disability. American Indian and Alaskan Native had the highest estimated disability proportion of 18.3% (+/- 0.8%). Black or African American and White (not Hispanic or Latino) had the next highest proportion estimates with disabilities in North Carolina, both at 14.4% (+/-0.2%) and 14.4% (+/- 0.1%), respectively (Table 15).

Sampson County had an estimated total population of 58,628 noninstitutionalized citizens. Of those, an estimated 13.9% (+/- 1.3%) had a disability. The highest estimated proportion of disabled civilians was Black or African American (19.5%, +/- 2.6%) followed by White (14.0% +/- 1.7%) and American Indian or Alaska Native (11.8% +/- 5.0%). None of the estimates for disability in Sampson County were at least 10% higher when compared to the state. (Table 10).

⁴ This indicator looks only at total population with a disability because further subcategories by race/ethnicity have large margin of errors. The tables in this section highlight race/ethnicity estimates that may be 10% higher compared to State or County estimates. For example, a margin of error of 10% indicates that an estimate of 30% is very likely between 20% and 40%.

Table 10. Regional Setting - Disability

Subject	North Carolina						Sampson County					
	Total		With a Disability		Percent with a Disability		Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	10,178,084	2,246	1,363,146	10,334	13.4%	0.1%	58,628	258	8,163	739	13.9%	1.3%
RACE AND HISPANIC OR LATINO ORIGIN												
White (not Hispanic or Latino)	6,384,673	4,026	920,335	7,716	14.4%	0.1%	34,264	932	4,471	567	13.0%	1.7%
Black or African American	2,162,727	5,667	312,089	5,124	14.4%	0.2%	14,712	259	2,871	391	19.5%	2.6%
American Indian and Alaska Native	117,165	2,329	21,497	933	18.3%	0.8%	1118	298	132	63	11.8%	5.0%
Asian	305,567	2,316	16,107	1,164	5.3%	0.4%	368	43	4	7	1.1%	2.0%
Native Hawaiian and Other Pacific Islander	6,715	771	620	185	9.2%	2.8%	0	31	0	31	(X)	(X)
Some other Race	330,447	8,082	21,840	1,304	6.6%	0.4%	5897	879	426	181	7.2%	2.9%
Two or more races	368,363	7,303	38,115	1,947	10.3%	0.5%	2269	537	259	137	11.4%	5.2%
Hispanic or Latino	968,502	1,000	63,943	2,301	6.6%	0.2%	12109	44	889	340	7.3%	2.8%
Type of Disability												
With a hearing difficulty	(X)	(X)	372754	5138	3.7%	0.1%	(X)	(X)	1,995	331	3.4%	0.6%
With a vision difficulty	(X)	(X)	255734	5030	2.5%	0.1%	(X)	(X)	1,719	341	2.9%	0.6%
With a cognitive difficulty	(X)	(X)	510091	6637	5.3%	0.1%	(X)	(X)	2,653	426	4.8%	0.8%
With an ambulatory difficulty	(X)	(X)	700857	12754	7.2%	0.1	(X)	(X)	4,589	495	8.4%	0.9%

Source: US Census Data, 2021 ACS 5-Year Estimates Subject Tables

(X) indicates the Census Data are missing in the source data

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the County compared to the State

Local Setting

According to the 2021 American Community Survey 5-Year Estimates, Table S1810 Disability Characteristics from the US Census Bureau, Census Tract 9704.02 had an estimated total population of 2,620 noninstitutionalized citizens (Table 11). Of those individuals, an estimated 17.2% (+/- 6.4%) had a disability. The populations with the largest proportion of civilians with a disability were Black or African American (26.6% +/- 13.7%), followed by White at 15.8% (+/- 7.4%). Black or African American population and White population were at least 10% higher compared to the state and/or Sampson County. All disability types were at least 10% higher compared to the state and Sampson County population with a disability.

Census Tract 9705.02 had an estimated total population of 4,434 noninstitutionalized citizens (Table 12). Of those individuals, an estimated 14.7% (+/- 5.3%) were civilians with a disability. The populations with the largest proportions of civilians with a disability were Black or African American (39.6% +/- 15.3%), followed by Two or more races at 17.9% (+/- 20.3%). Black or African American, Two or more races had populations that were at least 10% higher compared to Sampson County and the state. The percent of the population with a hearing difficulty or ambulatory difficulty were at least 10% higher compared to the State and/or Sampson County populations.

Census Tract 9709 had an estimated total population of 3,520 noninstitutionalized citizens (Table 12). Of those individuals, an estimated 14% (+/- 4.0%) were civilians with a disability. The populations with the largest proportions of civilians with a disability were Black or African American (22.3%, +/- 9.9%), followed by White (not Hispanic or Latino) at 11.4% (+/- 5.3%). Black or African American population was at least 10% higher when compared to the State and Sampson County population. The percent of the population with a hearing difficulty or ambulatory difficulty were at least 10% higher compared to the State and Sampson County populations.

Table 11. Local Setting - Disability

Subject	Census Tract 9704.02					
	Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	2,620	452	450	173	17.2%	6.4%
RACE AND HISPANIC OR LATINO ORIGIN						
White (not Hispanic or Latino)	1,637	338	259	130	15.8%	7.4%
Black or African American	681	257	181	91	26.6%	13.7%
American Indian and Alaska Native	13	22	2	5	15.4%	49.7%
Asian	0	13	0	13	(X)	(X)
Native Hawaiian and Other Pacific Islander	0	13	0	13	(X)	(X)
Some other Race	79	92	0	13	0.0%	36.9%
Two or more races	210	208	8	20	3.8%	11.1%
Hispanic or Latino	307	277	0	13	0.0%	12.2%
Type of Disability						
With a hearing difficulty	(X)	(X)	109	65	4.2%	2.5%
With a vision difficulty	(X)	(X)	131	87	5.0%	3.1%
With a cognitive difficulty	(X)	(X)	200	93	7.8%	3.3%
With an ambulatory difficulty	(X)	(X)	280	125	10.9%	4.6%
<p>Source: US Census Data, 2021 ACS 5-Year Estimate (X) indicates the Census Data are missing in the source data All bolded and orange highlighted cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State All bolded and blue highlighted cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County All bolded and green highlighted cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County</p>						

Table 12. Local Setting - Disability (cont'd)

Subject	Census Tract 9705.02						Census Tract 9709					
	Total		With a Disability		Percent with a Disability		Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	4,434	760	650	204	14.7%	5.3%	3,520	485	492	154	14.0%	4.0%
RACE AND HISPANIC OR LATINO ORIGIN												
White (not Hispanic or Latino)	2,676	720	263	116	9.8%	5%	1,979	458	225	107	11.4%	5.3%
Black or African American	772	244	306	140	39.6%	15.3%	1,164	356	259	130	22.3%	9.9%
American Indian and Alaska Native	253	111	5	8	2.0%	3.6%	0	13	0	13	(X)	(X)
Asian	29	31	0	13	0.0%	61.1%	0	13	0	13	(X)	(X)
Native Hawaiian and Other Pacific Islander	0	13	0	13	(X)	(X)	0	13	0	13	(X)	(X)
Some other Race	280	263	0	13	0.0%	13.3%	289	239	5	8	1.7%	3.0%
Two or more races	424	316	76	70	17.9%	20.3%	88	108	3	6	3.4%	10.2%
Hispanic or Latino	941	452	18	34	1.9%	4.4%	615	266	5	8	0.8%	1.3%
Type of Disability												
With a hearing difficulty	(X)	(X)	189	99	4.3%	2.3%	(X)	(X)	159	90	4.5%	2.6%
With a vision difficulty	(X)	(X)	93	76	2.1%	1.7%	(X)	(X)	75	62	2.1%	1.8%
With a cognitive difficulty	(X)	(X)	201	128	4.8%	3%	(X)	(X)	153	96	4.8%	2.9%
With an ambulatory difficulty	(X)	(X)	337	161	8.1%	4.4%	(X)	(X)	328	126	10.2%	3.7%

Source: US Census Data, 2021 ACS 5-Year Estimate

(X) indicates the Census Data are missing in the source data

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

5.4 Poverty

Summary of Environmental Justice Indicators:

1. Is there a percentage increase of 5% or more compared to the county or state average poverty?
 - Facility Area (one-mile radius): The facility area was not assessed because EJSCREEN does not provide statistics on poverty.
 - Census tract 9705.02: Yes, compared to the State.
 - Census tract 9704.02: Yes, compared to the State.
 - Census tract 9709: Yes, compared to both the County and the State.
2. Is the share of the population experiencing poverty 20% or more?

Yes, in Sampson County, 21.4% of the population is below the poverty level. Additionally, the share of the total population below the poverty level in Census Tract 9705.02 is 21.3% and Census Tract 9709 is 32.5%

Regional Setting

According to the Census Table S1701, Poverty Status in the Past 12 Months, 2021 American Community Survey 5-Year Estimates, from the US Census Bureau, North Carolina had an estimated population of 10,092,759, with 13.70% (+/- 0.2%) below the poverty level (Table 13). Across all populations, Some Other Race had the highest percent living below the poverty level at 24.2% (+/- 1.3%) followed by Native Hawaiian and Other Pacific Islander at 24.1% (+/- 4.8%), American Indian and Alaska Native at 24.0% (+/- 1.4%), and Hispanic or Latino at 23.4% (+/- .7%). 3258214 individuals received income 200% of the poverty level.

Households below 200 percent of the federal poverty level⁵ are calculated by multiplying the percentage point by the poverty level for the number of individuals in that household. For example, to calculate 200% of the poverty level for a household of four in 2021⁶, that would be \$53,000 (2.0 x \$26,500).

Sampson County had an estimated population of 58,611 with 21.4% (+/- 2.60%) living below the poverty level (Table 13). Across all subjects, Black or African American had the highest percent living below the poverty level at 32.2% (+/- 4.9%), followed by Asian (29.3% +/- 21%), and Hispanic or Latino (28.9%, +/- 6.50%). The total population below poverty level was at least 5% higher in Sampson County compared to the State. White (not Hispanic or Latino), Black or African American, Asian, Two or More Races, and Hispanic or Latino (of any race) populations also were at least 5% higher in Sampson County compared to the State population.

Department of Commerce County Ranking

Sampson County is a Tier 1 county by the NC Department of Commerce 2023 rankings. According to the Department of Commerce, Tier 1 counties encompass the 40 most distressed counties based on average unemployment rate, median household income, percentage growth

⁵ <https://www.thebalance.com/federal-poverty-level-definition-guidelines-chart-3305843>

⁶ The poverty level for a household of four in 2021 is an annual income of \$26,500. To calculate the poverty level for larger families, add \$4,540 for each additional person in the household. For smaller families, subtract \$4,540 per person.

in population, and adjusted property tax per capita. Tier 3 counties encompass the least distressed 20 counties based on this ranking system.

Table 13. Regional Setting - Poverty

Subject	North Carolina						Sampson					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	10,092,759	2,436	1,379,672	18,811	13.70%	0.2%	58,611	224	12,543	1,520	21.4%	2.60%
RACE AND HISPANIC OR LATINO ORIGIN												
White (not Hispanic or Latino)	6,283,973	4,061	599,394	11,077	9.50%	0.2%	29,421	127	3,854	965	13.1%	3.30%
Black or African American	2,113,081	6,724	445,971	8,131	21.1%	0.4%	14,689	258	4,729	731	32.2%	4.9%
American Indian and Alaska Native	110,567	2,169	26,484	1,550	24.0%	1.4%	1,118	298	254	139	22.7%	10.90%
Asian	308,031	2,284	29,425	2,346	9.6%	0.8%	368	43	108	76	29.3%	21.00%
Native Hawaiian and Other Pacific Islander	6,635	635	1,600	333	24.1%	4.8%	(X)	31	(X)	31	(X)	(X)
Some other Race	365,429	8,530	88,337	5,421	24.2%	1.3%	5,876	878	1,333	531	22.7%	8.80%
Two or more races	485,139	8,877	90,008	4,253	18.6%	0.8%	2,269	537	597	331	26.3%	11.40%
Hispanic or Latino (of any race)	991,728	1,561	231,783	7,255	23.4%	0.7%	12,088	60	3,496	784	28.9%	6.50%
All individuals below:												
200 percent of poverty level	3,258,214	27,203					(X)	(X)				

Source: US Census Data 2021, 5-Year Estimate

All **bolded and orange highlighted** cells indicate a percentage increase of 5% or more in the County when compared to the State

Local Setting

According to the Census Table S1701, Poverty Status in the Past 12 Months, 2021 American Community Survey 5-Year Estimates, from the US Census Bureau, Census Tract 9704.02 had an estimated population of 429 with 16.4% (MOE +/- 6.7%) living below the poverty level (Table 14). Total population, White (not Hispanic or Latino), and Black or African American populations had poverty levels higher than 5% different when compared to Sampson County and/or the State.

Census Tract 9705.02 had an estimated population of 950 with 21.3% (MOE +/- 12.3%) living below the poverty level (Table 15). Total population, White (not Hispanic or Latino), American Indian or Alaska Native, Asian, and Two or More Races populations had poverty levels higher than 5% different when compared to Sampson County and/or the State.

Census Tract 9709 had an estimated population of 1,135 with 32.5% (MOE +/- 10.4%) living below the poverty level (Table 16). Total population, White (not Hispanic or Latino), Black or African American, and Hispanic or Latino (of any race) populations had poverty levels higher than 5% different when compared to Sampson County and/or the State.

Table 14. Local Setting - Poverty

Subject	Census Tract 9704.02					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	2,611	452	429	196	16.4%	6.7%
RACE AND HISPANIC OR LATINO ORIGIN						
White (not Hispanic or Latino)	1,570	337	266	176	16.90%	9.2%
Black or African American	681	257	151	77	22.2%	13.7%
American Indian and Alaska Native	13	22	0	13	0%	91.2%
Asian	0	13	0	13	(X)	(X)
Native Hawaiian and Other Pacific Islander	0	13	0	13	(X)	(X)
Some other Race	79	92	0	13	0%	36.9%
Two or more races	210	208	12	28	5.7%	15.5%
Hispanic or Latino (of any race)	307	277	0	13	0%	12.2%
All individuals below:						
200 percent of poverty level	(X)	(X)				

Source: US Census Data 2021, ACS 5-Year Estimate
 All **bolded and orange highlighted** cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area compared to the County

Table 15. Local Setting - Poverty

Subject	Census Tract 9705.02					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	4,470	761	950	634	21.30%	12.3%
RACE AND HISPANIC OR LATINO ORIGIN						
White (not Hispanic or Latino)	2,418	671	630	585	26.10%	20.7%
Black or African American	772	244	85	77	11%	9.9%
American Indian and Alaska Native	253	111	86	97	34%	39.2%
Asian	29	31	9	15	31%	53.5%
Native Hawaiian and Other Pacific Islander	0	13	0	13	(X)	(X)
Some other Race	280	263	0	13	0%	13.3%
Two or more races	424	316	131	168	30.90%	29.9%
Hispanic or Latino (of any race)	941	452	123	162	13.10%	16.8%
All individuals below:						
200 percent of poverty level	1,965	754				
<p>Source: US Census Data 2021, ACS 5-Year Estimate</p> <p>All bolded and orange highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State</p> <p>All bolded and blue highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State and County</p> <p>All bolded and green highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area compared to the County</p>						

Table 16. Local Setting - Poverty

Subject	Census Tract 9709					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	3,493	492	1,135	378	32.5%	10.4%
RACE AND HISPANIC OR LATINO ORIGIN						
White (not Hispanic or Latino)	1,590	401	476	278	29.90%	15.3%
Black or African American	1,164	356	266	167	22.9%	14.0%
American Indian and Alaska Native	0	13	0	13	(X)	(X)
Asian	0	13	0	13	(X)	(X)
Native Hawaiian and Other Pacific Islander	0	13	0	13	(X)	(X)
Some other Race	289	239	19	33	6.6%	13.7%
Two or more races	88	108	15	21	17%	34.6%
Hispanic or Latino (of any race)	615	266	378	227	61.5%	26.7%
All individuals below:						
200 percent of poverty level	1,814	472				
<p>Source: US Census Data 2021, ACS 5-Year Estimate</p> <p>All bolded and orange highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State</p> <p>All bolded and blue highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area when compared to the State and County</p> <p>All bolded and green highlighted cells indicate a percentage increase of 5% or more in the Census Tract or one-mile radius area compared to the County</p>						

5.5 Household Income

Summary of Environmental Justice Indicators

1. Is there a percentage decrease of 10% or more compared to the County and/or State for mean, median, or per capita income?
 - Facility Area (1-mile radius): Yes, for per capita income.
 - Census tract 9705.02: Yes, for mean and per capita income.
 - Census tract 9704.02: Yes, for median, mean, and per capita income
 - Census tract 9709: Yes, for median, mean, and per capita income.

Regional Setting

The following table (Table 17) was compiled using data from the Census Table S1901, Income in the Past 12 Months (in 2021 Inflation-Adjusted Dollars) 2021 American Community Survey 5-Year Estimates for North Carolina. The North Carolina household income range with the highest percent was for \$50,000 to \$74,999, at 17.8% (+/- 0.4%). The state median household income was \$60,516 and the state mean income was \$84,888.

The household income range for Sampson County with the highest percent was \$50,000 to \$74,999 at 17.9% (+/- 2.1%). The median income was \$45,127 and the mean income was \$64,315. Household income ranges above \$75,000 were all at least 10% lower compared to the state. Sampson County median and mean incomes were at least 10% lower compared to the State.

Table 17. Regional Setting - Household Income

Subject	North Carolina		Sampson	
	Households		Households	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total	4,034,684	9,031	21,281	477
Less than \$10,000	5.8%	0.1%	7.5%	1.4%
\$10,000 to \$14,999	4.5%	0.1%	6.4%	1.4%
\$15,000 to \$24,999	9.0%	0.1%	11.9%	2%
\$25,000 to \$34,999	9.5%	0.1%	12.4%	1.8%
\$35,000 to \$49,999	13.1%	0.2%	15.6%	2.3%
\$50,000 to \$74,999	17.6%	0.2%	17.9%	2.1%
\$75,000 to \$99,999	12.7%	0.2%	10.5%	1.6%
\$100,000 to \$149,999	14.8%	0.2%	11.4%	1.4%
\$150,000 to \$199,999	6.1%	0.1%	3.7%	1.0%
\$200,000 or more	6.9%	0.1%	2.7%	0.8%
Median income (dollars)	60,516	353	45,127	3225
Mean income (dollars)	84,888	385	64,315	3730
Source: US Census, 2021 ACS 5-Year Estimates.				
All bolded and orange highlighted cells indicate the at least 10% lower when compared to the State.				

Local Setting

The household income range for Census Tract 9704.02 with the highest percent was \$50,000 to \$74,999 at 19.8% (+/- 7.9%) (Table 18). The median income was \$43,846 and the mean income was \$58,879. Median and mean incomes were at least 10% lower compared to the State. The number of households with income categories ranging from \$10,000 to \$149,999 were at least 10% lower compared to Sampson County and/or the State.

The household income range for Census Tract 9705.02 with the highest percent was \$50,000 to \$74,999 at 21.6% (+/- 8.3%) (Table 18). The median income was \$56,629 and the mean income was \$61,492. Mean income was at least 10% lower compared to the State. The number of households with income ranges less than \$10,000, \$25,000 to \$34,999, \$35,000 to \$49,999, and between \$100,000 to above \$200,000 were all at least 10% lower compared to the State and/or Sampson County.

The household income range for Census Tract 9709 with the highest percent \$100,000 to \$149,999 at 21.8% (+/- 9.4%) (Table 19). The median income was \$39,779 and the mean income was \$60,765. Median and mean incomes were at least 10% lower

compared to Sampson County and/or the State. The number of households with income ranges between \$35,000 to \$99,999 and income ranges \$150,000 and higher were at least 10% lower compared to either the county or the state, or both.

The household income range for the one-mile radius with the highest number of households was \$50,000 - \$75,000 at 29%. EJSCREEN data provides different income ranges that cannot be readily compared in the same manner to U.S. Census Data from the American Community Survey (Table 20).

Table 18. Local Setting - Household Income

Subject	Census Tract 9704.02		Census Tract 9705.02	
	Households		Households	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total	1,026	162	1,451	216
Less than \$10,000	6.3%	4.1%	4.6%	4.3%
\$10,000 to \$14,999	5.7%	3.6%	9.6%	9.1%
\$15,000 to \$24,999	16.7%	8.3%	11.1%	7.6%
\$25,000 to \$34,999	16.6%	10.5%	8.5%	6.2%
\$35,000 to \$49,999	9.0%	5.2%	12.8%	8.3%
\$50,000 to \$74,999	19.8%	7.9%	21.6%	8.3%
\$75,000 to \$99,999	11.2%	7.7%	17.0%	8.9%
\$100,000 to \$149,999	12.5%	7.8%	7.0%	4.1%
\$150,000 to \$199,999	1.4%	1.6%	5.0%	4.2%
\$200,000 or more	1.0%	1.6%	2.7%	3.8%
Median income (dollars)	43,846	17,783	56,629	15,644
Mean income (dollars)	58,879	12,060	61,492	10,023
Source: US Census, 2021 ACS 5-Year Estimates.				
All bolded and orange highlighted cells indicate a percentage decrease of 10% or more in the Census Tract or one-mile radius area when compared to the State				
All bolded and blue highlighted cells indicate a percentage decrease of 10% or more in the Census Tract or one-mile radius area when compared to the State and County				
All bolded and green highlighted cells indicate a percentage decrease of 10% or more in the Census Tract or one-mile radius area compared to the County				

Table 19. Local Setting - Household Income (cont'd)

Subject	Census Tract 9709	
	Households	
	Estimate	Margin of Error +/-
Total	1,292	160
Less than \$10,000	9.2%	5.3%
\$10,000 to \$14,999	10.8%	6.2%
\$15,000 to \$24,999	13.4%	6.6%
\$25,000 to \$34,999	12.8%	6.5%
\$35,000 to \$49,999	7.2%	3.5%
\$50,000 to \$74,999	15.7%	6.4%
\$75,000 to \$99,999	4.5%	3.9%
\$100,000 to \$149,999	21.8%	9.4%
\$150,000 to \$199,999	0.9%	1.4%
\$200,000 or more	3.6%	4.2%
Median income (dollars)	39,779	15,622
Mean income (dollars)	60,765	10,510

Source: US Census, 2021 ACS 5-Year Estimates.
 All **bolded and orange highlighted** cells indicate a percentage **decrease** of 10% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage **decrease** of 10% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage **decrease** of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 20. Facility Area - Household Income

Subject	1-mile Radius		
	Number	Percent	MOE
Number of Households	137	100%	136
Household Income			
<\$15,000	8	6%	55
\$15,000-\$25,000	36	27%	115
\$25,000-\$50,000	18	13%	51
\$50,000-\$75,000	39	29%	106
\$75,000+	35	26%	79

Source: EJSCREEN 2020

Per Capita Income

Per Capita Income data was obtained through the Census Table B19301, Per Capita Income in the Past 12 Months (In 2021 Inflation-Adjusted Dollars), 2021 American Community Survey 5-Year Estimates. The North Carolina per capita income estimate was

\$34,209 (+/- 175). The estimate for Sampson County was \$24,480 (+/- 1,293). The estimate for Census Tract 9704.02 was \$25,061 (+/-4,809). The estimate for Census Tract 9705.02 was \$21,055 (+/-3,864). The estimate for Census Tract 9709 was \$22,399 (+/- 3,636).

The EJSCREEN analysis also provided the Per Capita Income estimate for the one-mile radius surrounding facility site, which was \$23,542. All Per Capita Income estimates were at least 10% lower than that of the state.

5.6 Limited English Proficiency (LEP)

Summary of Environmental Justice Indicators

1. Is there at least 5% of the population or 1000 people who speak English less than very well?
 - Census tract 9705.02: Yes, 12.5% speak Spanish.
 - Census tract 9704.02: No, less than 5%.
 - Census tract 9709: Yes, 5.50% speak Spanish.

Per the Safe Harbor Guidelines, should an LEP Group be identified during the permit application process, written translations of vital documents for each eligible LEP language group that constitutes 5% or includes 1,000 members (whichever is less) of the population of persons eligible to be served or likely to be affected or encountered. If there are fewer than 50 persons in a language group that reaches the 5% trigger, then DEQ will not translate vital written materials, but instead will provide written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost. The safe harbor provisions apply to the translation of written documents only. Safe harbor guidelines are based on EPA guidance for LEP persons and implemented by DEQ when deemed appropriate.

The following tables (Table 21-23) were compiled using data from the Census Table S1601: Language Spoken at Home, 2021 American Community Survey 5-Year Estimates for North Carolina.

Sampson County and two census tracts had a population of over 5% with limited English proficiency, primarily Spanish.

Table 21. Regional - Limited English Proficiency

Language Spoken at Home	North Carolina				Sampson County			
	Number		Percent		Number		Percent	
	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-
Total (population 5 years and over):	9,773,018	998	(X)	(X)	55,668	43	(X)	(X)
Speak a language other than English	1,179,594	8,169	12.10%	0.1	10,794	±77	19.40%	±1.4
Speak only English	8,593,424	8,073	87.90%	0.1	44,874	778	80.60%	±1.4
Speak Spanish	753,142	6,398	7.70%	0.1	9,960	529	17.90%	±0.9
Speak Other Indo-European Language	185,814	4,966	1.90%	0.1	130	58	0.20%	±0.1
Speak Asian and Pacific Island languages	172,979	3,315	1.80%	0.1	225	115	0.40%	±0.2
Other Language	67,659	3,971	0.70%	0.1	479	551	0.90%	±1.0
Speak English Less than Very Well	439,178	6,681	4.50%	0.1	5,097	689	9.20%	±1.2

Source: US Census, 2021 ACS 5-Year Estimates.

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the County when compared to the State

Table 22. Local - Limited English Proficiency

LANGUAGE SPOKEN AT HOME	Census Tract 9704.02				Census Tract 9705.02			
	Estimate	Margin of Error	Percent	Margin of Error	Estimate	Margin of Error	Percent	MOE +/-
Total (population 5 years and over):	2,560	448	(X)	(X)	4,218	719	(X)	(X)
Speak only English	2,271	379	88.7%	9.7	3,372	760	79.9%	10.5%
Spanish or Spanish Creole	289	271	11.3%	9.7	803	442	19.0%	10.4%
Other Indo-European languages	0	13	0%	1.5	1	2	0%	0.1%
Asian and Pacific Island languages	0	13	0%	1.5	42	43	1%	1.1%
Speak English Less than Very Well	29	53	1.10%	2.0	528	311	12.50%	7.4%

Source: US Census, 2021 ACS 5-Year Estimates.

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 23. Local - Limited English Proficiency (cont'd)

LANGUAGE SPOKEN AT HOME	Census Tract 9709			
	Estimate	Margin of Error	Percent	MOE +/-
Total (population 5 years and over):	3,214	436	(X)	(X)
Speak only English	2,710	434	84.3%	8.1%
Spanish or Spanish Creole	503	279	15.7%	8.1%
Other Indo-European languages	1	2	0%	0.1%
Asian and Pacific Island languages	0	13	0%	1.2%
Speak English Less than Very Well	176	131	5.50%	4.1%

Source: US Census, 2021 ACS 5-Year Estimates.

All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State

All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County

All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

5.7 Educational Attainment

Regional Setting

The following data was obtained through the US Census Bureau Table S1501, American Community Survey 2020 5-Year Estimates (Table 24). Sampson County had lower percentages across all subjects when compared to the state.

Table 24. Regional Setting- Educational Attainment (above 25 years old)

Subject	North Carolina				Sampson			
	Number		Percent		Number		Percent	
	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-
Total Above 25	7,084,876	1,388	(X)	(X)	39,867	65	(X)	(X)
Less than 9th Grade	292,419	5,771	4.10%	0.1%	3,023	389	7.60%	1.0%
9th to 12th grade, no diploma	484,267	6,751	6.80%	0.1%	4,227	565	10.60%	1.4%
High school graduate (includes equivalency)	1,787,594	12,223	25.20%	0.2%	13,975	853	35.10%	2.1%
Bachelor's degree or higher	2,339,163	16,848	33.00%	0.2%	5,859	543	14.70%	1.4%

Source: US Census, 2021 ACS 5-Year Estimates.
All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the County when compared to the State

Local Setting

The following data was obtained through the US Census Bureau Table S1501, American Community Survey 2020 5-year Estimates. Census Tract 9704.02 had a higher percentage of individuals who had graduated high school compared to Sampson County and the State.

Census Tract 9705.02 had a higher percentage of individuals who had attained less than 9th grade education, 9th to 12th grade (no diploma), Bachelor's degree or higher when compared to the State and/or Sampson County (Table 25).

Census Tract 9709 had a higher percentage of individuals who had 9th to 12th grade (no diploma) and High school graduate (includes equivalency) when compared to Sampson County and/or the State (Table 26).

Table 25. Local Setting- Educational Attainment (above 25 years old)

Subject	Census Tract 9704.02				Census Tract 9705.02			
	Number		Percent		Number		Percent	
	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-	Estimate	MOE +/-
Total Above 25	1874	325	(X)	(X)	2569	324	(X)	(X)
Less than 9th Grade	47	36	2.5%	1.8%	318	178	12.4%	6.5%
9th to 12th grade, no diploma	121	79	6.5%	4%	326	149	12.7%	6%
High school graduate (includes equivalency)	831	224	44.3%	7.8%	571	160	22.2%	6.5%
Bachelor's degree or higher	182	84	9.7%	4.2%	471	182	18.3%	6.5%

Source: US Census, 2021 ACS 5-Year Estimates.
 All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

Table 26. Local Setting- Educational Attainment (above 25 years old) (cont'd)

Subject	Census Tract 9709			
	Number		Percent	
	Estimate	MOE +/-	Estimate	MOE +/-
Total Above 25	2111	319	(X)	(X)
Less than 9th Grade	67	46	3.2%	2.3%
9th to 12th grade, no diploma	168	83	8%	3.5%
High school graduate (includes equivalency)	843	199	39.9%	7.6%
Bachelor's degree or higher	195	111	9.2%	5.3%

Source: US Census, 2021 ACS 5-Year Estimates.
 All **bolded and orange highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State
 All **bolded and blue highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area when compared to the State and County
 All **bolded and green highlighted** cells indicate a percentage increase of 10% or more in the Census Tract or one-mile radius area compared to the County

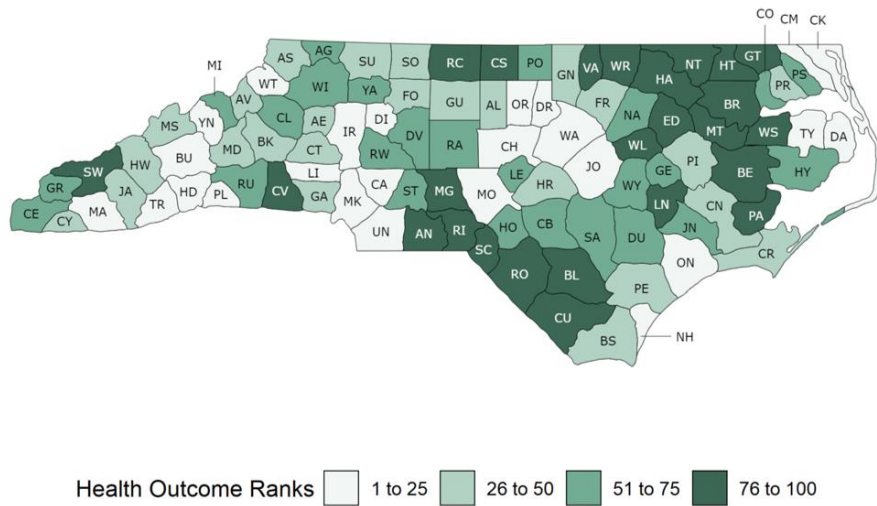
Table 27. Project Radius – Educational Attainment (above 25 years old)

Subject	1-Mile Radius		
	Estimate	Percent	MOE +/-
Total Above 25	283	(X)	255
Less than 9th Grade	34	12%	104
9th to 12th grade, no diploma	24	8%	76
High school graduate (includes equivalency)	88	31%	132
Bachelor's degree or higher	89	31%	138
Source: EJ Screen 2020			

6 County Health

The University of Wisconsin Population Health Institute, in collaboration with the Robert Wood Johnson Foundation, calculated County Health Rankings for all the States in the United States (www.countyhealthrankings.org). This ranking is based on health outcomes (such as lifespan and self-reported health status) and health factors (such as environmental, social, and economic conditions). According to this 2022 report, out of all 100 counties in North Carolina (with 1 indicating the healthiest), Sampson County ranks 49th in health outcomes and ranked in the lower middle range (25%-50%) among all NC counties for health factors (Figure 2).

2022 Health Outcomes – North Carolina



2022 Health Factors – North Carolina

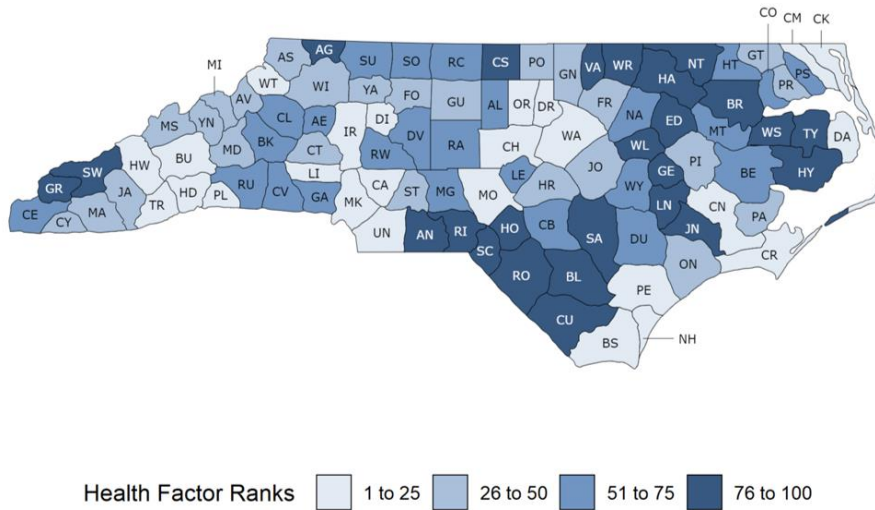


Figure 2. County Health Rankings for Health Factors in North Carolina provided by University of Wisconsin Public Health Institute.

In Sampson County, according to the NC DHHS Health Trends Tool, the health outcomes for causes of death were all higher compared to the state (Table 28).

Table 28. Health Outcomes

<i>Cause of Death</i>	Sampson County Age-Adjusted Death Rate/100,000 People 2011-2015	North Carolina Age-Adjusted Death Rate/100,000 People 2011-2015
Lung Cancer	53.6	48.9
Heart Disease	175.9	163.7
Stroke Death Rate	53.9	43.1
Cardiovascular Disease	245.7	221.9
Diabetes	48.2	22.8
Source: NC Statewide and County Trends in Key Health Indicators, NC DHHS ⁷		

7 Local Sensitive Receptors

The U.S. Environmental Protection Agency suggests that sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. For instance, children and the elderly may have a higher risk of developing asthma from elevated levels of certain air pollutants than healthy individuals aged between 18 and 64.

Within the one-mile radius surrounding the facility location, the following sensitive receptors were identified (Figure 3):

- Snow Hill Baptist Church
- Elizabeth Baptist Church (outside of one-mile radius)

Additional sensitive receptors may be identified during the remainder of the permit application process.

⁷ NC DHHS Health Trends:
<https://nc.maps.arcgis.com/apps/MapSeries/index.html?appid=7234a5a1778248688d0c666fa2ba27d0>

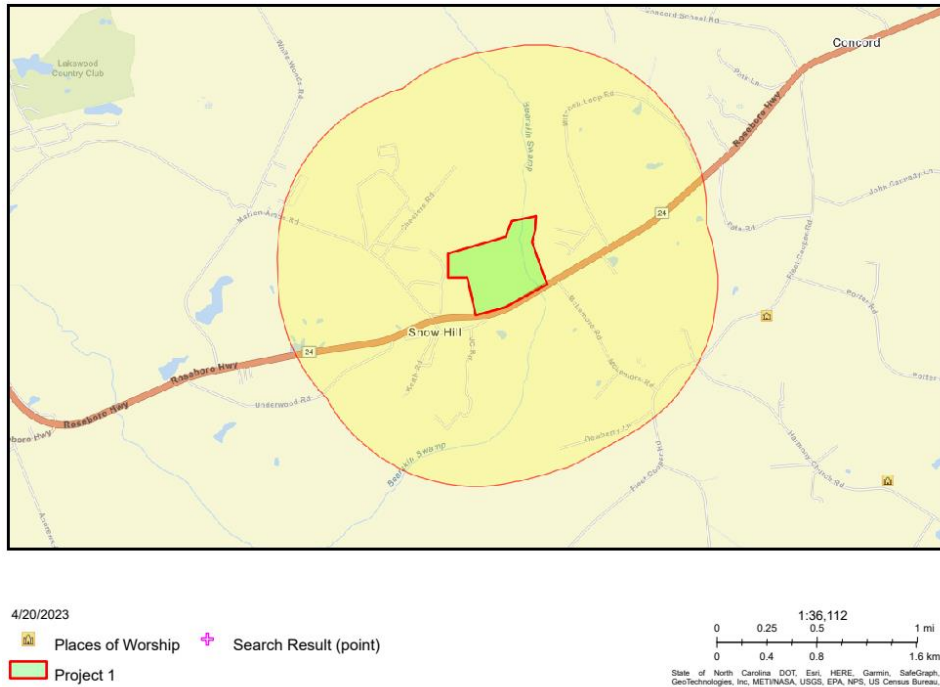


Figure 3. Sensitive receptors surrounding facility

8 Local Industrial Sites

According to the NC CMS/EJ Tool, within the one-mile radius of the facility, there are 19 permits and 2 incidents (as of April 19, 2023) (Figure 4).

- 1 Air Quality Permit (Class: Small)
- 2 Active Animal Feed Operation Permits (Swine State COC)
- 1 Underground Storage Tank Incident
- 1 Above Ground Storage Tank Incident
- 14 NPDES Stormwater Permits
- 2 Permitted Solid Waste Landfills (Open and Closed)

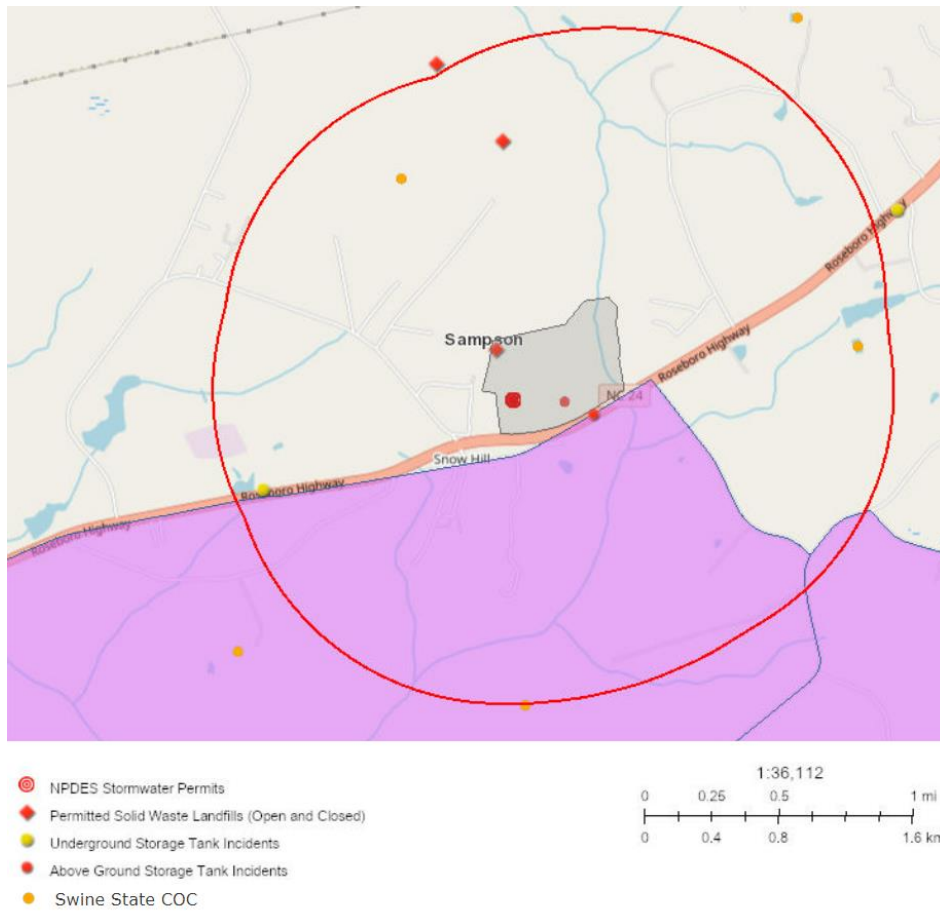


Figure 4. Permitted facilities and incidents with the one-mile radius surrounding the facility.

9 Conclusion

Environmental justice 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 (US EPA).

Limitations: It is important to keep in mind that based on the available data, the following limitations of this report: census data is from 2020 (except for 2010 for age & sex) —and may be outdated; the American Community Survey data through 2020 are estimates; EJSCREEN does not provide all of the data categories that were used in this analysis so the census tract and county data cannot be compared to the radius used surrounding the facility boundary for all criteria; census tracts can still be large areas and do not allow for exact locations of each population; and the smaller the population the larger the margin of error such that it is not clear whether there are or are not significant differences at the census tract compared to county and state geographic scales. As such, the Department uses best estimates and cannot determine exact demographic or socioeconomic information within a one-mile radius around the facility.

Summary: The Department assessed the available demographic and socioeconomic data of the community surrounding the Sapphire facility regarding its permit application.

- **Potentially Underserved Community:** This site is located within one mile of a block group identified as potentially underserved based on DEQ’s definition⁸ (See Map 3). DEQ recommends consulting the Enhanced Engagement Methods to Reach Underserved Communities section of DEQ’s Public Participation Plan.⁹
- **Poverty:** A population experiencing poverty (>20%) resides in two of three census tracts near the facility. On average, 21.4% of the population in Sampson County is below the poverty level.
- **Race/Ethnicity:** In one of the three census tracts near the facility, the population is > 50% minority. Black or African American, Hispanic or Latino, and Indigenous populations largely make up higher than County or State proportions near the facility.
- **Tribe:** The Coharie Tribe is a state-recognized Tribe which resides, in part, in Sampson County. While the one-mile radius area does not intersect a Tribal statistical area, it is approximately 3 miles from a tribal statistical area and sociodemographic data indicate Indigenous populations may reside near the facility. DEQ recommends reaching out directly to the Coharie Tribe leadership.
- **Limited English Proficiency:** The site is an area with limited English proficiency (>5% of the population likely speaks Spanish). DEQ recommends

⁸ *Racial composition:* Share of nonwhites is over fifty percent OR Share of nonwhites is at least ten percent higher than county or state share. AND *Poverty rate:* Share of population experiencing poverty is over twenty percent AND Share of households in poverty is at least five percent higher than the county or state share.

⁹ DEQ 2022 Public Participation Plan: <https://deq.nc.gov/ej/deq-public-participation-plan-2022-update/download?attachment>

any company and any state or local government consult DEQ's Limited English Proficiency Language Access Plan¹⁰ and conduct outreach in both English and Spanish.

- **Health:** Sampson County key health indicators for lung cancer, heart disease, cardiovascular disease, and diabetes deaths were all higher compared to the same indicators for all of North Carolina.
- **Cumulative Impact Potential:** There are 19 existing permits and 2 incidents within one mile of the site that could contribute to cumulative impacts to sensitive receptors within and outside the one-mile buffer.

Based on this EJ Report, the following outreach was performed:

- Distribution of the public notice and project documents to DAQ's Title V public notice email listserv.
- Posted a public notice to:
 - Sampson Independent (Newspaper)
 - NC DEQ's website
- Distribution of the press release in English and Spanish to media, the EJ email listserv, interested parties, and online.
- Arrangement of an English and Spanish voice mail line to receive public comments in case there was limited internet access.
- Development of a 1-page fact sheet in English and Spanish.
- Posted information about the public hearing and public commenting period on social media in both English and Spanish.
- Delivered press release and fact sheet (in English and Spanish for both materials) through mail and email to sensitive receptors identified in this EJ report.
- Shared the press release and fact sheet via mail and email with government officials in Sampson County, the Coharie Tribe, and the Town of Roseboro.
- Shared project information with and consulted the Coharie Tribe.
- Consulted known community leaders for recommendations for additional outreach options.
- Placed a Spanish commercial on La Grande radio station (6 ad spots) to play from June 16th, 2023 to June 25th, 2023.
- Hired Full Circle Interpreting for live Spanish interpretation at the public hearing.

¹⁰ DEQ 2022 Language Access Plan: <https://deq.nc.gov/ej/limited-english-proficiency-plan/download>
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