

1 Introduction

The draft Environmental Justice (EJ) Report is an initial look at the demographics and socioeconomics of a facility's surrounding community area. This includes information within a radius, as determined by the North Carolina Department of Environmental Quality (Department or DEQ), race and ethnicity (decennial census year), poverty status, per capita income, and ability to speak English (most current American Community Survey (ACS) census range), the current North Carolina Department of Commerce county tier, and presence of Native American territory.

The primary goal is to encourage comments and suggestions from the surrounding community, industry, and environmental groups throughout the comment period.

It is important to keep in mind, that based on the data available, the following limitations of this study exist:

- census data is from 2010 and may be outdated;
- the more recent ACS data through 2017 are estimates;
- EPA's 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 evaluating the facility boundary;
- census tracts can be large areas that do not identify exact locations of each population;
- some of the census tracts slightly overlap with the two-mile radius; and
- the Department cannot determine which populations are located within that small area of overlap.

The Department has reviewed the demographic and socioeconomic data of the communities surrounding the Duke Energy Allen Steam Station in Belmont (Gaston County) to foster communication prior to the Division of Waste Management's public hearing for the first of three new landfill permit applications.

Under the [consent order](#) signed in February of 2020, Duke Energy is required to excavate more than 76 million tons of coal ash from open, unlined impoundments at six facilities. Duke Energy submitted its closure plan for the Allen Steam Station on December 31, 2019. The plan details full excavation of coal ash from the Allen Steam Station facility impoundment to three lined, onsite landfills. After a thorough review and public comment period, the Department determined on October 29, 2020, that the closure plan submitted by Duke Energy for the Allen Steam Station to be protective of public health and the environment.

2 Environmental Justice Evaluation

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 (Environmental Protection Agency). This evaluation examines the demographic and environmental conditions in Gaston and Mecklenburg Counties, as well as census tracts 324.02, 325.02, 59.06, 59.07, 59.08, and 59.09, plus the two-mile buffer around the property boundary of the Duke Energy Allen Steam Station facility. Finally, the demographics for the State of North Carolina are also considered as they compare to both the county and local census tract and radius settings.

The Department has assessed the permit application and potential impacts on communities surrounding the facility as proposed in the permit application. Accordingly, the EJ Report will include:

- Overview of the application;
- Study of area demographics [determined by using the EPA Environmental Justice tool (EJSCREEN – <https://ejscreen.epa.gov/mapper/>) and current, available census data (found at: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>);
- Comparison of local area demographics to both county and statewide census data;
- County health assessment;
- Surrounding sensitive receptors; and
- Local industrial sites (using the NC Community Mapping System (<https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=1eb0fbe2bcfb4cccb3cc212af8a0b8c8>)).

Demographics (including race and ethnicity, poverty status, and per capita incomes) for Gaston and Mecklenburg counties will be compared to the local (census tracts and project radius) level data to identify any disparities surrounding the project area. Using standard environmental justice guidelines from the EPA and National Environmental Policy Act (NEPA) documentation, the following conditions will be flagged as potential communities of concern:

- 10% or more in comparison to the county or state average;
- 50% or more minority; and
- 5% or more in comparison to the county or state average for poverty.

3 Proposed Project

The proposed project to build three new lined landfills for coal ash disposal at the existing Duke Energy Allen Steam Station is consistent with the Coal Ash Impoundment Closure Plan, approved by DEQ on October 29, 2020. For this project, Duke Energy submitted two separate applications to two different DEQ divisions. The following sections outline the draft permits under review within the Division of Waste Management – Solid Waste Section, and the Division of Air Quality.

Division of Waste Management

The Allen Steam Station is owned and operated by Duke Energy Carolinas, LLC (Duke Energy) and located in Gaston County along the west shore of Lake Wylie (Catawba River), near the town of Belmont, North Carolina. The Allen Station began operations in 1957 as a coal-fired electric generating station and is currently in active operation.

In accordance with the Settlement Agreement between Duke Energy, NCDEQ, and various community groups dated December 31, 2019, Duke Energy prepared a Closure Plan to describe the closure activities of the Retired Ash Basin and Active Ash Basin at the Allen Steam Station. The plan, approved by NCDEQ on October 29, 2020, detailed closure-by-excavation of the Retired and Active Ash Basins and placement of the excavated coal combustion residuals (CCR) in three new permitted onsite lined landfills: North Starter Landfill, South Starter Landfill, and Ash Basin Landfill.

The Retired Ash Basin (RAB) was operational from 1957 until 1973 when it reached capacity and was retired. The Retired Ash Basin is estimated to contain approximately 8.88 million tons of CCR (or an estimated 7.59 million cubic yards) that are subject to the Closure Plan. The approximate 8.8 million tons of CCR also includes the volume of coal ash in the RAB landfill and the two unlined Distribution of Residual Solids (DORS) ash stacks constructed on top of the RAB.

The Active Ash Basin was commissioned in 1973 to divert wet sluiced CCR from the Retired Ash Basin and operated as a wet sluiced pond until flows were discontinued in February 2019. Based on topographic and bathymetric surveys performed in July 2014 and February 2015, the Active Ash Basin contains approximately 10.48 million tons of CCR (an estimated 8.73 million cubic yards) that are subject to the Closure Plan.

Table 1. Retired Ash Basin Information

Impoundment	Estimated Coal Combustion Residuals Weight (million tons)	Estimated Coal Combustion Residuals Volume (million cubic yards)
Retired Ash Basin	8.88*	7.59
Active Ash Basin	10.48	8.73
Total CCR	19.36**	16.33

* Includes the RAB landfill and two DORS ash stacks

** Based on CCR inventory data provided by Duke Energy as of July 31, 2019

Under the approved Closure Plan, all CCR except for a small amount necessary for transmission tower stability will be excavated and placed in three new lined landfills located within plant property and partially or fully within the former footprint of the basins. All three landfills will be designed and constructed in accordance with existing state and federal laws and rules. They will be double-lined with geosynthetic material, have a leachate detection system and leachate collection system, have environmental monitoring and closed with a geosynthetic closure cap.

3619-North Starter Landfill

The North Starter Landfill will: 1) be the first constructed, 2) be located partially within the former footprint of the RAB in the northwest portion of the property, 3) be approximately 25 acres, 4) contain approximately 2.3 million cubic yards of CCR, and 5) stand 130 feet tall (from primary liner to top of final closure cap) rising approximately 50 feet above Southpoint Road.

3620-South Starter Landfill

The South Starter Landfill will: 1) be the second constructed, 2) be located partially within the former footprint of the Active Ash Basin in the southeast portion of the property, 3) be approximately 22 acres, 4) contain approximately 2.3 million cubic yards of CCR and, 5) stand 135 feet tall (from primary liner to top of final closure cap) rising approximately 40 feet above Southpoint Road.

3621-Ash Basin Landfill

The Ash Basin Landfill will: 1) be the last constructed, 2) be located within the former footprint of the Active Ash Basin in the middle of the property, 3) be approximately 74 acres, 4) contain approximately 11.7 million cubic yards of CCR and, 5) stand 220 feet tall (from primary liner to top of final closure cap) rising approximately 110 feet above Southpoint Road.

The Division of Waste Management (DWM) received the Site Suitability Application, Volumes I and II for all three landfills and Permit to Construction (PTC) Applications for the North Starter Landfill and South Starter Landfill on November 9, 2020. A revised PTC Application for the North Starter Landfill was submitted on March 1, 2021 following DWM technical comments. Duke Energy received the Notification of Site Suitability for the North Starter Landfill on March 8, 2021.

Table 2. Landfill Information

Landfill	Area (acres)	Volume of CCR (million cubic yards)	Landfill Height (feet)	Height Above Southpoint Rd (feet)
3619-North Starter Landfill	25	2.3	130	50
3620-South Starter Landfill	22	2.3	135	40
3621-Ash Basin Landfill	74	11.7	220	110
Total	121	16.3		



Figure 1. Facility with landfill locations.

Division of Air Quality

Duke Energy Carolinas is proposing to excavate the coal ash (coal combustion residuals or CCR) and relocate it from the Active Ash Basin (AAB) to a new lined ash landfill to be constructed on site. All of the CCR in the unlined ash basins will be excavated and deposited in the new landfill over the course of approximately a fifteen-year project duration, starting in 2022 and extending through 2037 with an annual average transfer rate of approximately 1.1 million cubic yards per year.

The project will result in increased emissions of particulate matter (PM), PM less than 10 micrometers and PM less than 2.5 micrometers in diameter (PM₁₀ and PM_{2.5}, respectively), SO₂, NO_x, CO, VOCs, lead, carbon dioxide as CO_{2e}, and air toxics.

Table 3. Project Emissions Increase, Tons Per Year

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	CO _{2e}	Lead
Project emissions increase, TPY	16.01	8.17	2.34	0.0014	0.85	0.74	0.33	141.12	2.66E-03

Air dispersion modeling was performed for the following emissions. The results for each compound fell below the Acceptable Ambient Level (AAL).

Table 4. Potential Toxic Emissions.

Toxic Compounds	Facility-wide Potential Emission Rates		
	lb/day	lb/yr	Percent of AAL (%)
Arsenic		158.69	53
Beryllium		14.82	4
Cadmium		20.99	2
Chromium VI	0.15		5
Manganese	1.78		2
Mercury	0.29		0.1
Nickel	1.27		3

4 Geographic Area

The Allen Steam Station is located at 253 Plant Allen Rd, Belmont, NC 28012 (Figure 2).

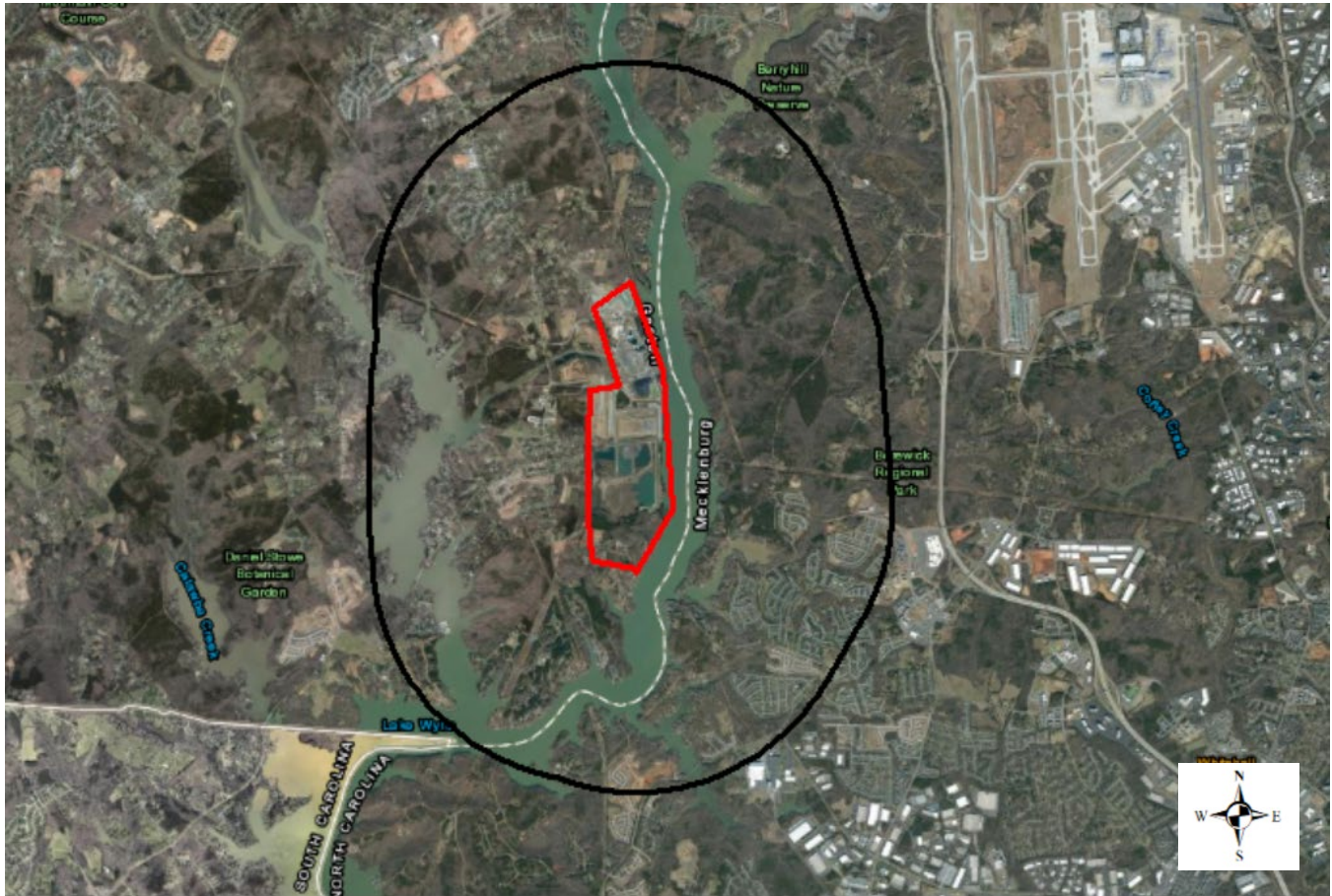


Figure 2. Facility location (Allen Steam Station) with two-mile radius.

Regional Setting

The Allen Steam Station facility is located in Gaston County, and the two-mile facility buffer enters into Mecklenburg County. The N.C. Department of Commerce designated Gaston County as a Tier 2 county and Mecklenburg County as a Tier 3 for 2021. Tier 1 counties encompass the 40 most distressed counties based on average unemployment rate, median household income, percentage growth in population, and adjusted property tax per capita. Tier 2 counties include the next 40 distressed counties, while Tier 3 are the least distressed counties based on these factors. The two-mile radius used in this analysis enters into six census tracts: census tracts 324.02 and 325.02 in Gaston County and census tracts 59.06, 59.07, 59.08, and 59.09 in Mecklenburg County (Figure 3). Census tracts are small, relatively permanent statistical subdivisions of a county with a unique numeric code (US Census Bureau). The two-mile buffer does not encompass any land within state designated tribal statistical areas. However, the Commission of Indian Affairs does identify an American Indian Association within Mecklenburg County– the Metrolina Native American Association.



Figure 3. Census tracts surrounding facility location

Table 5. Regional Setting - Race and Ethnicity

Subject	North Carolina		Gaston County		Mecklenburg County	
	Number	Percent	Number	Percent	Number	Percent
Total population	9,535,483	100.0	206,086	100	919,628	100
White	6,223,995	65.3	156,310	75.8	465,372	50.6
Black or African American	2,019,854	21.2	31,022	15.1	278,042	30.2
American Indian or Alaska Native	108,829	1.1	707	0.3	2,843	0.3
Asian	206,579	2.2	2,462	1.2	41,991	4.6
Native Hawaiian and other Pacific Islanders	5,259	0.1	44	0.0	518	0.1
Some other Race	15,088	0.2	273	0.1	2,407	0.3
Two or more Races	155,759	1.6	3,087	1.5	16,511	1.8
HISPANIC OR LATINO of any race	800,120	8.4	12,201	5.9	11,944	1.3

Source: US Census Bureau, 2010 Census
 All **bolded and orange cells** indicate a difference that is greater than 10% when compared to the state.

Table 6. Local Setting - Race and Ethnicity

Subject	Project Area- 2 miles		Census Tract 324.02		Census Tract 325.02	
	Number	Percent	Number	Percent	Number	Percent
Total population	10,413	100	4,288	100	3,153	100.0
White	6,966	67	3,780	88.1	2,910	92.3
Black or African American	1,488	14	200	4.7	87	2.8
American Indian or Alaska Native	47	0	12	0.3	6	0.2
Asian	673	6	163	3.8	57	1.8
Native Hawaiian and other Pacific Islanders	6	0	1	0.0	0	0.0
Some other Race	497	5	8	0.2	4.0	0.1
Two or more Races	226	2	35	0.8	20	0.6
HISPANIC OR LATINO of any race	1,121	11	89	0.0	69	2.2

Source: US Census Bureau, 2010 Census
 All **bolded and orange cells** indicate a difference that is greater than 10% when compared to the state.
 All **bolded and blue cells** indicate a difference that is greater than 10% when compared to the county and state.

Table 7. Local Setting - Race and Ethnicity (cont'd)

Subject	Census Tract 59.06		Census Tract 59.07		Census Tract 59.08		Census Tract 59.09	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total population	4,478	100.0	4,229	100.0	1,535	100.0	6,318	100.0
White	2,525	56.4	1,979	46.8	1,338	87.2	2,558	40.5
Black or African America	567	12.7	1,040	24.6	94	6.1	2,067	32.7
American Indian or Alaska Native	27	0.6	11	0.3	1	0.1	13	0.2
Asian	321	7.2	411	9.7	37	2.4	529	8.4
Native Hawaiian and other Pacific Islanders	2	0.0	4	0.1	0	0.0	7	0.1
Some other Race	11	0.2	20	0.5	6	0.4	24	0.4
Two or more Races	84	1.9	77	1.8	16	1.0	131	2.1
HISPANIC OR LATINO of any race	941	21.0	687	16.2	43	2.8	989	15.7

Source: US Census Bureau, 2010 Census

All **bolded and orange cells** indicate a difference that is greater than 10% when compared to the state.

All **bolded and blue cells** indicate a difference that is greater than 10% when compared to the county and state.

Table 8a. Poverty Status – Regional Setting

Subject	North Carolina						Gaston County					
	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	9,881,292	1,522	1,523,949	15,319	15.4	0.2	213,482	398	33,324	1,814	15.6	0.9
AGE												
Under 18	2,258,876	1,607	498,013	7,632	22.0	0.3	48,749	232	10,753	944	22.1	1.9
18 to 64	6,092,009	1,103	884,618	9,282	14.5	0.2	132,019	257	19,159	1,041	14.5	0.8
65 years and over	1,530,407	995	141,318	2,705	9.2	0.2	32,714	194	3,412	301	10.4	0.9
SEX												
Male	4,779,533	2,237	669,307	8,648	14.0	0.2	102,707	295	14,356	990	14.0	1.0
Female	5,101,759	2,244	854,642	8,676	16.8	0.2	110,775	260	18,968	1,061	17.1	1.0
RACE AND HISPANIC OR LATINO ORIGIN												
White	6,281,258	2,576	668,925	9,394	10.6	0.2	155,923	491	19,670	1,551	12.6	1.0
Black or African American	2,096,490	5,812	493,496	8,392	23.5	0.4	33,956	572	8,040	828	23.7	2.4
American Indian and Alaska Native	117,702	1,595	29,577	1,585	25.1	1.3	731	189	139	81	19.0	10.8
Asian	275,301	1,983	32,712	2,356	11.9	0.9	3,347	180	367	176	11.0	5.2
Native Hawaiian and Other Pacific Islander	6,414	671	1,246	264	19.4	4.2	126	149	-	29	0.0	23.9
Some other Race	302,934	7,911	89,305	5,371	29.5	1.5	5,750	862	1,706	549	29.7	7.7
Two or more races	252,709	6,223	54,335	2,369	21.5	0.8	5,237	632	1,324	428	25.3	6.5
Hispanic or Latino	915,426	901	260,607	5,682	28.5	0.2	14,551	59	3,769	607	25.9	4.2
All individuals below:												
50 percent of poverty level	663,550	10,829					14,669	1,415				
125 percent of poverty level	2,034,827	19,447					44,037	1,921				
150 percent of poverty level	2,526,688	21,681					57,239	2,259				
185 percent of poverty level	3,227,889	24,339					74,792	2,336				
200 percent of poverty level	3,513,670	25,035					80,990	2,522				

Source: American Community Survey 5-year Estimates (2014-2018)

All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

Table 8b. Poverty Status – Regional Setting (cont'd)

Subject	North Carolina						Mecklenburg County					
	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	9,881,292	1,522	1,523,949	15,319	15.4	0.2	1,039,018	733	131,485	4,170	12.7	0.4
AGE												
Under 18	2,258,876	1,607	498,013	7,632	22.0	0.3	251,616	402	45,438	2,160	18.1	0.9
18 to 64	6,092,009	1,103	884,618	9,282	14.5	0.2	677,413	482	77,284	2,563	11.4	0.4
65 years and over	1,530,407	995	141,318	2,705	9.2	0.2	109,989	318	8,763	668	8.0	0.6
SEX												
Male	4,779,533	2,237	669,307	8,648	14.0	0.2	498,579	480	57,354	2,212	11.5	0.4
Female	5,101,759	2,244	854,642	8,676	16.8	0.2	540,439	500	74,131	2,663	13.7	0.5
RACE AND HISPANIC OR LATINO ORIGIN												
White	6,281,258	2,576	668,925	9,394	10.6	0.2	566,243	2,934	47,257	2,579	8.3	0.4
Black or African American	2,096,490	5,812	493,496	8,392	23.5	0.4	324,769	1,908	55,771	2,920	17.2	0.9
American Indian and Alaska Native	117,702	1,595	29,577	1,585	25.1	1.3	3,725	723	861	433	23.1	9.6
Asian	275,301	1,983	32,712	2,356	11.9	0.9	60,130	741	7,240	1,039	12.0	1.7
Native Hawaiian and Other Pacific Islander	6,414	671	1,246	264	19.4	4.2	558	148	20	31	3.6	5.4
Some other Race	302,934	7,911	89,305	5,371	29.5	1.5	53,963	2,664	15,539	1,906	28.8	3.3
Two or more races	252,709	6,223	54,335	2,369	21.5	0.8	29,630	1,678	4,797	755	16.2	2.4
Hispanic or Latino	915,426	901	260,607	5,682	28.5	0.2	136,282	234	32,693	2,162	24.0	1.6
All individuals below:												
50 percent of poverty level	663,550	10,829					58,957	3,199				
125 percent of poverty level	2,034,827	19,447					175,891	4,961				
150 percent of poverty level	2,526,688	21,681					218,125	4,811				
185 percent of poverty level	3,227,889	24,339					281,368	5,164				
200 percent of poverty level	3,513,670	25,035					306,980	5,048				

Source: American Community Survey 5-year Estimates (2014-2018)

All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

Table 9a. Poverty Status – Local Setting

Subject	Census Tract 324.02						Census Tract 325.02					
	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	5,266	380	288	163	5.5	3.1	3,865	352	375	289	9.7	7.3
AGE												
Under 18	1,207	136	70	67	5.8	5.6	1,093	248	113	129	10.3	11.3
18 to 64	3,293	308	179	114	5.4	3.5	2,218	224	139	93	6.3	4.4
65 years and over	766	73	39	36	5.1	4.9	554	169	123	107	22.2	15.8
SEX												
Male	2,742	251	137	89	5.0	3.2	1,770	212	233	198	13.2	10.6
Female	2,524	211	151	86	6.0	3.5	2,095	221	142	102	6.8	4.9
RACE AND HISPANIC OR LATINO ORIGIN												
White	4,641	443	237	148	5.1	3.1	3,626	371	375	289	10.3	7.8
Black or African American	147	97	-	17	0.0	21.0	116	96	-	12	0.0	25.6
American Indian and Alaska Native	41	41	0	17	0.0	48.1	0	12	0	12	-	-
Asian	237	196	9	15	3.8	7.8	91	75	-	12	0.0	30.9
Native Hawaiian and Other Pacific Islander	-	17	-	17	-	**	-	12	-	12	-	-
Some other Race	22	21	-	17	0.0	65.6	-	12	-	12	-	-
Two or more races	145	92	42	66	29.0	43.3	32	48	-	12	0.0	54.4
Hispanic or Latino	48	53	-	17	0.0	44.4	8	13	-	12	0.0	100.0
All individuals below:												
50 percent of poverty level	29	28					360	288				
125 percent of poverty level	358	203					457	292				
150 percent of poverty level	556	278					492	292				
185 percent of poverty level	636	287					598	307				
200 percent of poverty level	719	286					652	318				

Source: American Community Survey 5-year Estimates (2014-2018)

All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

All **bolded and blue** cells indicate a difference that is greater than 5% when compared to the state and the county.

Table 9b. Poverty Status – Local Setting (cont'd)

Subject	Census Tract 59.06						Census Tract 59.07					
	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	4,894	437	916	362	18.7	6.8	5,903	329	297	150	5.0	2.5
AGE												
Under 18	1,197	236	388	177	32.4	13.5	1,858	214	82	69	4.4	3.7
18 to 64	3,159	265	472	189	14.9	5.6	3,707	201	203	105	5.5	2.8
65 years and over	538	73	56	49	10.4	9.1	338	72	12	18	3.6	5.5
SEX												
Male	2,503	271	407	169	16.3	6.3	2,641	197	103	58	3.9	2.2
Female	2,391	292	509	251	21.3	8.9	3,262	293	194	110	5.9	3.3
RACE AND HISPANIC OR LATINO ORIGIN												
White	2,858	249	279	154	9.8	5.3	2,834	275	126	104	4.4	3.6
Black or African American	754	151	43	46	5.7	6.2	2,179	403	122	102	5.6	4.4
American Indian and Alaska Native	0	12	0	12	-	-	7	11	7	11	100.0	100.0
Asian	232	107	18	19	7.8	8.2	490	123	-	17	0.0	6.9
Native Hawaiian and Other Pacific Islander	-	12	-	12	-	-	-	17	-	17	-	-
Some other Race	945	398	558	310	59.0	22.5	206	172	14	20	6.8	11.9
Two or more races	105	77	18	27	17.1	26.6	187	104	28	45	15.0	23.0
Hispanic or Latino	1,493	427	558	310	37.4	18.4	840	135	123	104	14.6	13.1
All individuals below:												
50 percent of poverty level	325	187					95	75				
125 percent of poverty level	1,390	426					395	208				
150 percent of poverty level	1,739	496					403	210				
185 percent of poverty level	1,937	500					704	334				
200 percent of poverty level	2,011	489					809	349				

Source: American Community Survey 5-year Estimates (2014-2018)

All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

All **bolded and blue** cells indicate a difference that is greater than 5% when compared to the state and the county.

Table 9c. Poverty Status – Local Setting (cont'd)

Subject	Census Tract 59.08						Census Tract 59.09					
	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	1,602	139	55	35	3.4	2.2	10,082	724	907	443	9.0	4.5
AGE												
Under 18	267	53	6	10	2.2	3.9	3,006	355	341	261	11.3	8.5
18 to 64	1,056	131	31	22	2.9	2.2	6,226	502	467	219	7.5	3.6
65 years and over	279	66	18	16	6.5	5.7	850	195	99	74	11.6	8.5
SEX												
Male	801	111	25	17	3.1	2.2	4,827	618	518	314	10.7	6.5
Female	801	87	30	23	3.7	2.9	5,255	378	389	199	7.4	3.9
RACE AND HISPANIC OR LATINO ORIGIN												
White	1,241	155	49	31	3.9	2.6	4,060	716	108	79	2.7	2.0
Black or African American	257	128	6	10	2.3	4.0	4,320	786	503	422	11.6	9.1
American Indian and Alaska Native	0	12	0	12	-	-	0	19	0	19	-	-
Asian	51	47	-	12	0.0	43.1	1,071	267	216	208	20.2	16.0
Native Hawaiian and Other Pacific Islander	-	12	-	12	-	-	-	19	-	19	-	-
Some other Race	5	8	-	12	0.0	100.0	251	245	80	126	31.9	45.4
Two or more races	48	30	-	12	0.0	44.4	380	284	-	19	0.0	8.8
Hispanic or Latino	-	12	-	12	-	-	1,502	426	80	126	5.3	9.4
All individuals below:												
50 percent of poverty level	51	33					315	216				
125 percent of poverty level	55	35					1,063	458				
150 percent of poverty level	74	45					1,232	527				
185 percent of poverty level	180	71					2,078	785				
200 percent of poverty level	191	78					2,090	787				

Source: American Community Survey 5-year Estimates (2014-2018)

All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

All **bolded and blue** cells indicate a difference that is greater than 5% when compared to the state and the county.

5 Limited English Proficiency (LEP)

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 five percent 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 five percent 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 Guidelines apply to the translation of written documents only. Safe Harbor Guidelines are per the EPA guidance for LEP persons, and implemented by DEQ when deemed appropriate. The population of Spanish-speakers that speak English “less than very well” is greater than five percent in three of the census tracts included in the two-mile buffer.

Table 10a. Limited English Proficiency – Gaston County Census Tracts

LANGUAGE SPOKEN AT HOME	Census Tract 324.02			Census Tract 325.02		
	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent
Total (population 5 years and over):	4,529	287	100.0	3,219	221	100.0
Speak only English	4,042	328	89.2	3,057	240	95.0
Spanish or Spanish Creole:	78	64	1.7	21	16	0.7
Speak English "very well"	34	45	0.8	12	13	0.4
Speak English less than "very well"	44	44	1.0	9	16	0.3
French Creole	7	13	0.2	0	12	0.0
Speak English "very well"	7	13	0.2	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
Chinese	15	24	0.3	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	15	24	0.3	0	12	0.0
Thai	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
Vietnamese	130	133	2.9	19	35	0.6
Speak English "very well"	61	66	1.3	11	21	0.3
Speak English less than "very well"	69	72	1.5	8	14	0.2
Other Asian languages	71	79	1.6	28	45	0.9
Speak English "very well"	27	32	0.6	21	33	0.7
Speak English less than "very well"	44	49	1.0	7	13	0.2
Gujarati	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
Mon-Khmer, Cambodian	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
Russian	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
German	0	12	0.0	34	30	1.1
Speak English "very well"	0	12	0.0	34	30	1.1
Speak English less than "very well"	0	12	0.0	0	12	0.0
Other Slavic languages	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0
Other Indic languages	0	12	0.0	0	12	0.0
Speak English "very well"	0	12	0.0	0	12	0.0
Speak English less than "very well"	0	12	0.0	0	12	0.0

Table 10b. Limited English Proficiency – Mecklenburg County Census Tracts

LANGUAGE SPOKEN AT HOME	Census Tract 59.06			Census Tract 59.07		
	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent
Total (population 5 years and over):	3,729	419	100.0	4,371	292	100.0
Speak only English	2,654	310	71.2	3,189	314	73.0
Spanish or Spanish Creole:	872	355	23.4	689	182	15.8
Speak English "very well"	567	278	15.2	392	162	9.0
Speak English less than "very well"	305	162	8.2	297	125	6.8
French Creole	0	12	0.0	37	61	0.8
Speak English "very well"	0	12	0.0	24	40	0.5
Speak English less than "very well"	0	12	0.0	13	21	0.3
Chinese	14	21	0.4	11	18	0.3
Speak English "very well"	14	21	0.4	0	17	0.0
Speak English less than "very well"	0	12	0.0	11	18	0.3
Thai	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Vietnamese	113	95	3.0	53	44	1.2
Speak English "very well"	0	12	0.0	19	31	0.4
Speak English less than "very well"	113	95	3.0	34	34	0.8
Other Asian languages	0	12	0.0	100	113	2.3
Speak English "very well"	0	12	0.0	72	79	1.6
Speak English less than "very well"	0	12	0.0	28	35	0.6
Gujarati	9	15	0.2	138	81	3.2
Speak English "very well"	9	15	0.2	109	81	2.5
Speak English less than "very well"	0	12	0.0	29	30	0.7
Mon-Khmer, Cambodian	28	50	0.8	0	12	0.0
Speak English "very well"	20	36	0.5	0	12	0.0
Speak English less than "very well"	8	14	0.2	0	12	0.0
Russian	0	12	0.0	53	63	1.2
Speak English "very well"	0	12	0.0	20	32	0.5
Speak English less than "very well"	0	12	0.0	33	55	0.8
German	0	12	0.0	20	33	0.5
Speak English "very well"	0	12	0.0	20	33	0.5
Speak English less than "very well"	0	12	0.0	0	17	0.0
Other Slavic languages	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Other Indic languages	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0

Table 10c. Limited English Proficiency – Mecklenburg County Census Tracts

LANGUAGE SPOKEN AT HOME	Census Tract 59.08			Census Tract 59.09		
	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent
Total (population 5 years and over):	1,443	148	100.0	7,202	622	100.0
Speak only English	1,343	137	93.1	5,359	751	74.4
Spanish or Spanish Creole:	7	13	0.5	1,405	735	19.5
Speak English "very well"	0	12	0.0	990	646	13.7
Speak English less than "very well"	7	13	0.5	415	261	5.8
French Creole	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Chinese	23	39	1.6	0	17	0.0
Speak English "very well"	23	39	1.6	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Thai	17	25	1.2	0	17	0.0
Speak English "very well"	9	13	0.6	0	17	0.0
Speak English less than "very well"	8	12	0.6	0	17	0.0
Vietnamese	0	12	0.0	231	240	3.2
Speak English "very well"	0	12	0.0	115	128	1.6
Speak English less than "very well"	0	12	0.0	116	117	1.6
Other Asian languages	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Gujarati	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Mon-Khmer, Cambodian	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
Russian	0	12	0.0	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	0	12	0.0	0	17	0.0
German	24	35	1.7	0	17	0.0
Speak English "very well"	8	16	0.6	0	17	0.0
Speak English less than "very well"	16	20	1.1	0	17	0.0
Other Slavic languages	5	10	0.3	0	17	0.0
Speak English "very well"	0	12	0.0	0	17	0.0
Speak English less than "very well"	5	10	0.3	0	17	0.0
Other Indic languages	14	23	1.0	167	254	2.3
Speak English "very well"	14	23	1.0	59	90	0.8
Speak English less than "very well"	0	12	0.0	108	164	1.5

6 County Health

The University of Wisconsin Population Health Institute, in collaboration with the Robert Wood Johnson Foundation, calculated a County Health Rankings system 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 2020 report, out of all 100 counties in North Carolina (with 1 indicating the healthiest), Gaston County ranks 51st in health factors and 62nd in health outcomes. Mecklenburg County ranks 18th in health factors and 6th in health outcomes.

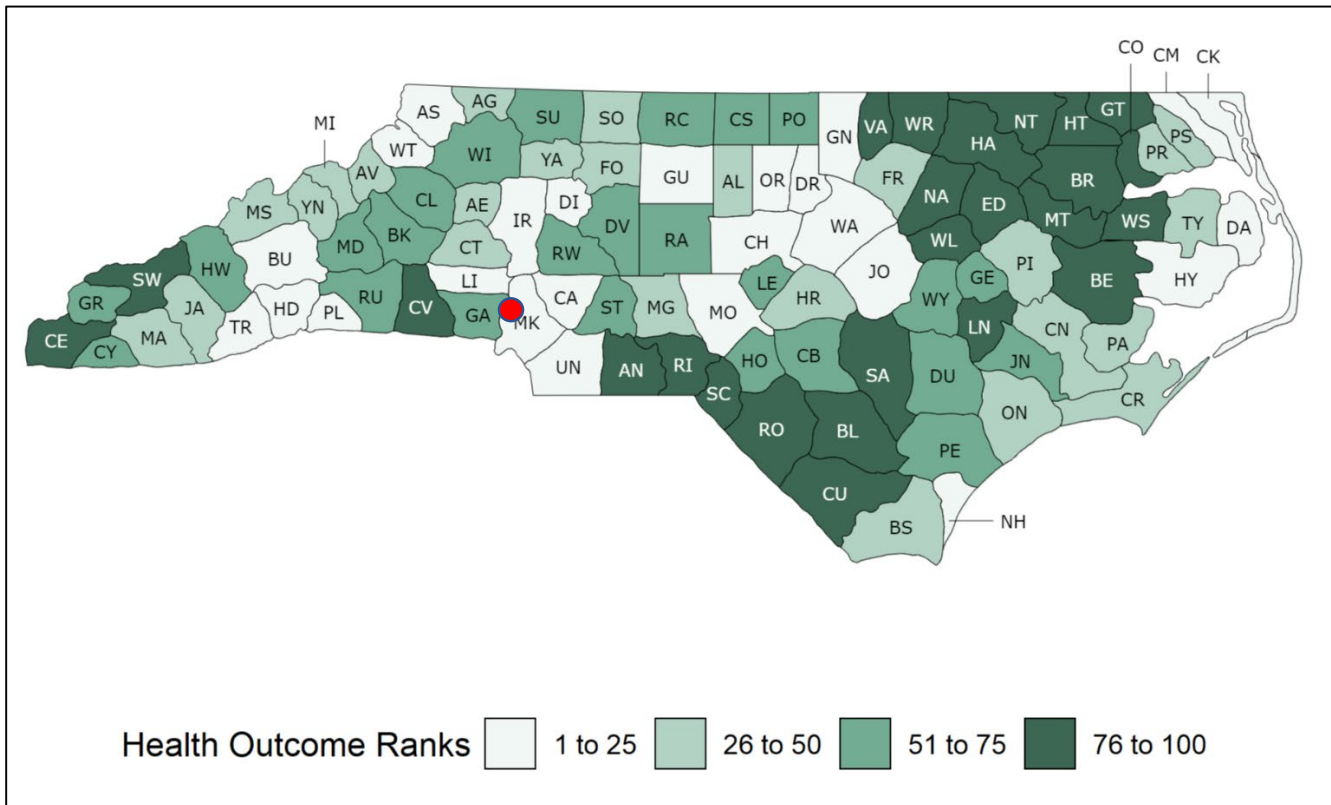


Figure 4. County Health Rankings for Health Factors in North Carolina provided by University of Wisconsin Public Health Institute.

7 Local Sensitive Receptors

The EPA 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 a healthy individual aged between 18 and 64.

Within the two-mile project radius from the Duke Energy Allen Steam Station, the following potential sensitive receptors were identified through EJSCREEN and Google Maps.

- Berryhill School,
- Berewick Elementary,
- Berewick Regional Park,
- South Point United Methodist Church,
- South Point Freewill Baptist,
- Henry's Chapel AME Zion Church,
- South Point Baptist Church,
- Berryhill Nature Preserve,
- Mt. Olive Presbyterian Church, and
- Allen Fishing Area (Country Park).

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

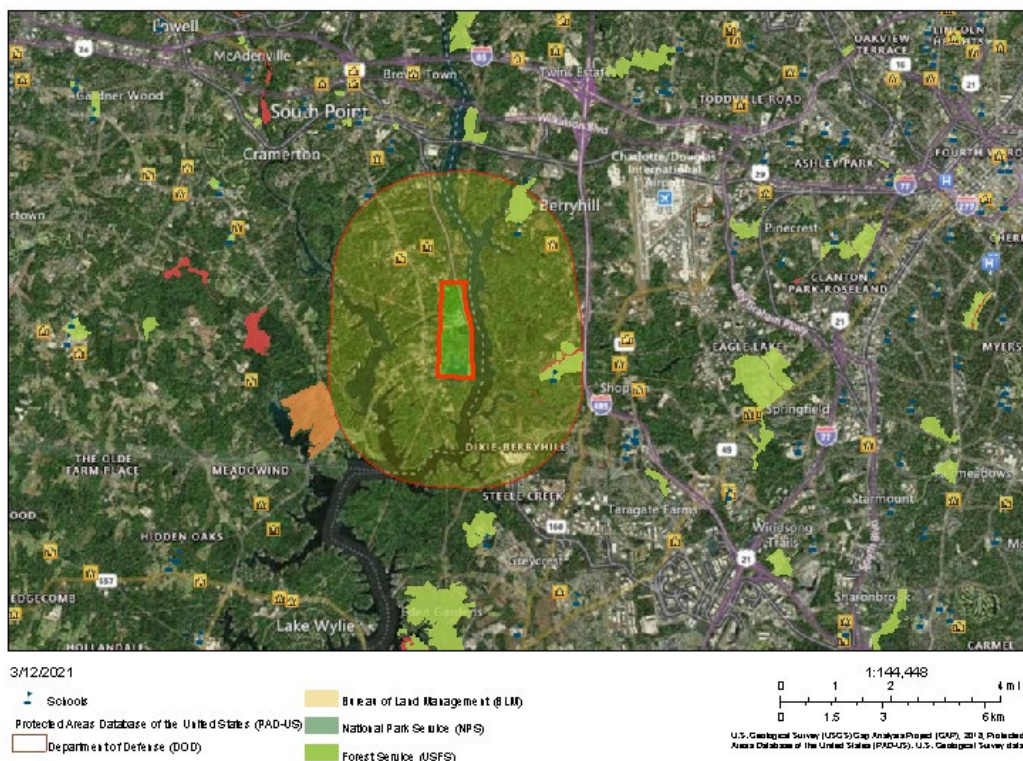


Figure 5. Sensitive receptors surrounding the facility

8 Local Industrial Sites

Within the two-mile buffer of the Allen Steam Station, there are 38 facility permits or incident reports (as of March 12, 2020):

- 1 Air Quality Title V permit (belongs to the Allen facility itself),
- 5 NPDES Wastewater Treatment Permits,
- 1 Solid Waste Septage Site,
- 3 Coal Ash Structural Fills,
- 2 Permitted Solid Waste Landfills (1 open, 1 closed),
- 2 Inactive Hazardous Sites,
- 14 Underground Storage Tank Incidents,
- 5 Aboveground Storage Tanks Incidents,
- 3 Underground Storage Tank Active Facilities, and
- 2 Land-Use Restrictions and/or Notices.

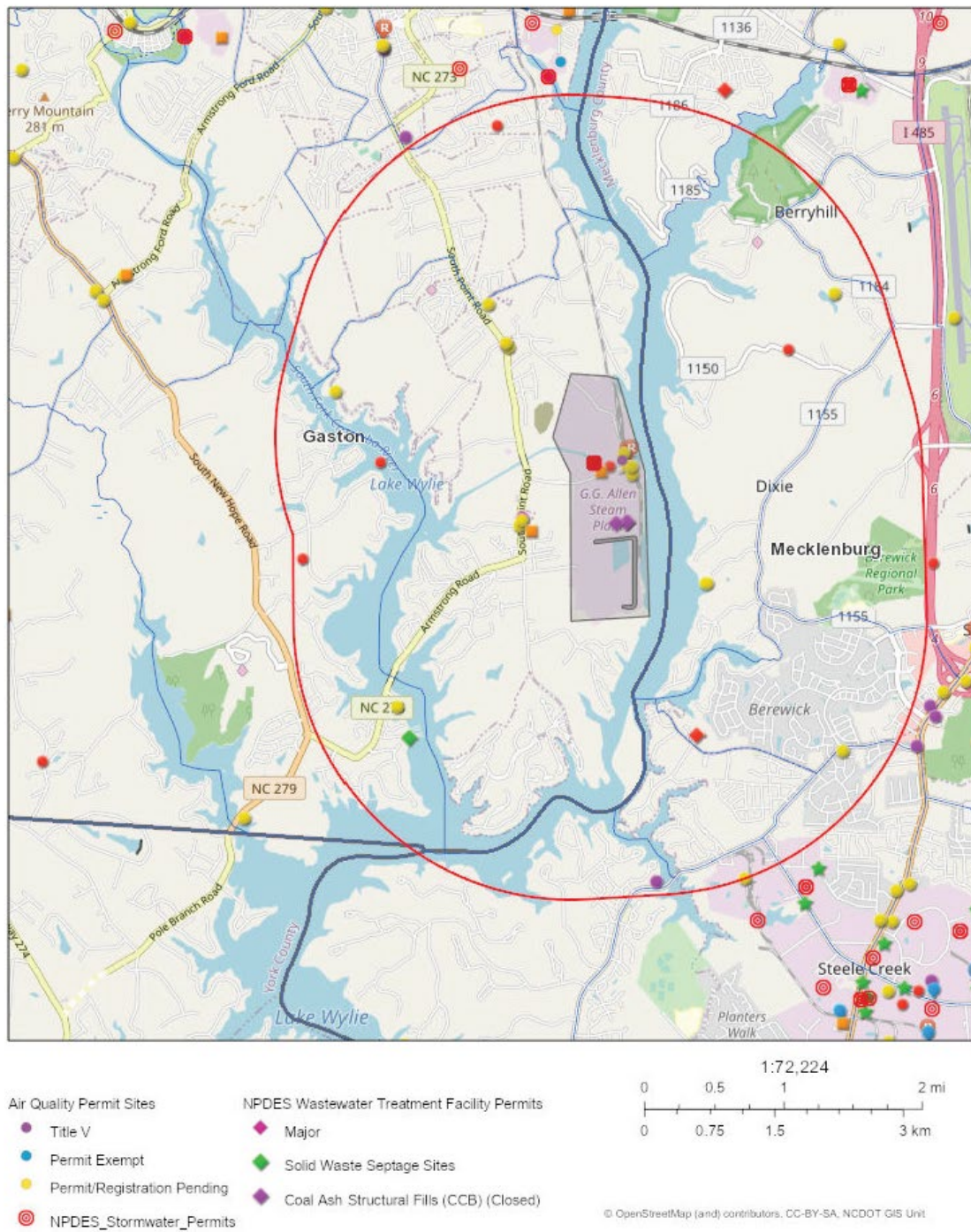


Figure 6. Permitted facilities and incidents with the two-mile radius surrounding Duke Energy's Allen Steam Station.

9. Conclusion

The EJ Report is an initial evaluation of the demographics and socioeconomics of the community area surrounding a proposed facility or permit modification. This includes information within a determined radius by the Department (one mile for this project) on race and ethnicity (decennial census year), poverty, per capita income, and ability to speak English (most current ACS census range), current N.C. Department of Commerce county tier, and presence or absence of American Indian Tribal areas. The EJ Report does not include a reconnaissance of the community. The proposed Allen Steam Station coal ash landfills are located in an area designated with moderate health factors and outcomes in comparison to other areas of the state.

The surrounding area displays lower percentages of African-American residents as compared to the state, and in some cases, the county as well. There is also a slightly higher percentage of Hispanic or Latino in several of the surrounding census tracts. One potential LEP language group (Spanish) was identified having met the five percent threshold for Safe Harbor Guidelines.

Based on the results from this EJ Report, DEQ will conduct the following outreach:

- 1) Post the notice for public comment in newspapers in both Mecklenburg and Gaston counties.
- 2) Provide project information to the Metrolina Native American Association (located in Mecklenburg County).
- 3) Translate the public notice into Spanish and publish the translated notice on the DEQ Website.
- 4) Review the list of sensitive receptors while considering additional outreach options that may best fit this community's needs.
- 5) Share meeting announcements and comment period reminders through social media.