ENVIVA NORTHAMPTON, LLC
Draft Environmental Justice Report

North Carolina Department of Environmental Quality
April 27, 2021

Contents

1   Introduction

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). This evaluation examines the demographic and environmental conditions in Northampton County, as well as census tracts, and the one-mile and two-mile radius around the property boundary of the Enviva Pellets Northampton, LLC facility. Finally, the demographics of the entire state of North Carolina are also considered as they compare to both the county and local census tract and radius settings.

Enviva Pellets Northampton, LLC (Enviva) was initially permitted to construct a wood pellets manufacturing plant in Northampton, North Carolina under the authorization of North Carolina Division of Air Quality (NC DAQ) permit 10203R05 issued on March 3, 2017.

2   Environmental Justice Evaluation

The North Carolina Department of Environmental Quality (NCDEQ) has assessed the potential impact on communities surrounding the proposed facility operation by reducing emission sources through implementation of control technology. The assessment of potential impacts included:
- Modeled emissions rates
- Permit modification application submitted by Enviva Pellets Northampton, LLC
- Study of area demographics [determined by utilizing the US EPA Environmental Justice tool (EJSCREEN) https://ejscreen.epa.gov/mapper/ and current, available census data. 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
- Local industrial sites (using the NCDEQ Community Mapping System https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=1eb0fbe2bcfb4cccb3cc212af8a0b8c8).
- Comparison of area demographics to project county and state census data
- A confirmation site visit to ensure accuracy of current available census data
- Communication with public and public officials in neighboring communities

3 Project Proposal

Enviva Pellets Northampton, LLC (Enviva) operates a wood pellets manufacturing plant in Northampton County, North Carolina under the authorization of North Carolina Division of Air Quality (NC DAQ) permit 10203R07 issued on October 21, 2019. That permit required Enviva to submit an amended 1st time Title V Air Permit application within 30 days of permit issuance.

The original 1st time Title V Application No. 6600167.14B was submitted on April 22, 2014, within 12 months of commencing operation of the facility, and was subsequently amended on August 9, 2016, January 21, 2020, April 3, 2020, and November 23, 2020. The November 23, 2020 amended application was considered complete on that date and replaced all of the other 1st Time Title V Air Permit applications. This application will be processed in accordance with 15A NCAC 02Q .0501(c)(1) and will go through 30-day public notice and 45-day EPA review periods prior to permit decision.

Notable permit changes in response to this latest amended 1st time Title V application include:

- Separation of all of the facility's sources into four different groups in Section 2.1.
- Addition of Title V noncompliance language throughout.
- Updating of parametric monitoring conditions throughout.
- Deletion of the Dryer 1 and 2 Bypasses since they are used only for malfunctions.
- Deletion of the dry hammermill pre-screeners 1 and 2 since the systems are totally enclosed.

The estimated potential to emit (PTE) from this facility with this procedural application remains unchanged from the previous calculations. Those potentials are shown below.

Table 1. Potential to Emit

Enviva's Estimated PTE	CO (tpy)	NO$_x$ (tpy)	PM (tpy)	PM$_{10}$ (tpy)	PM$_{2.5}$ (tpy)	SO$_2$ (tpy)	VOC (tpy)	CO$_2$e (tpy)	Total HAPs (tpy)
Title V 11/17/2020 application	171.2	213.0	120.0	89.4	75.4	39.1	120.3	383,222	18.0

4   Geographic Area

The Enviva facility is located at 830 Lebanon Church Rd, Garysburg, NC 27831 (Northampton County). The highest off-site ambient air impacts from the Enviva Northampton 2019 permit action dispersion modeling occur at the plant fence line. A two-mile radius was used to evaluate the local demographics and socioeconomics to appropriately include the surrounding community and help inform public outreach efforts.(Figure 1)
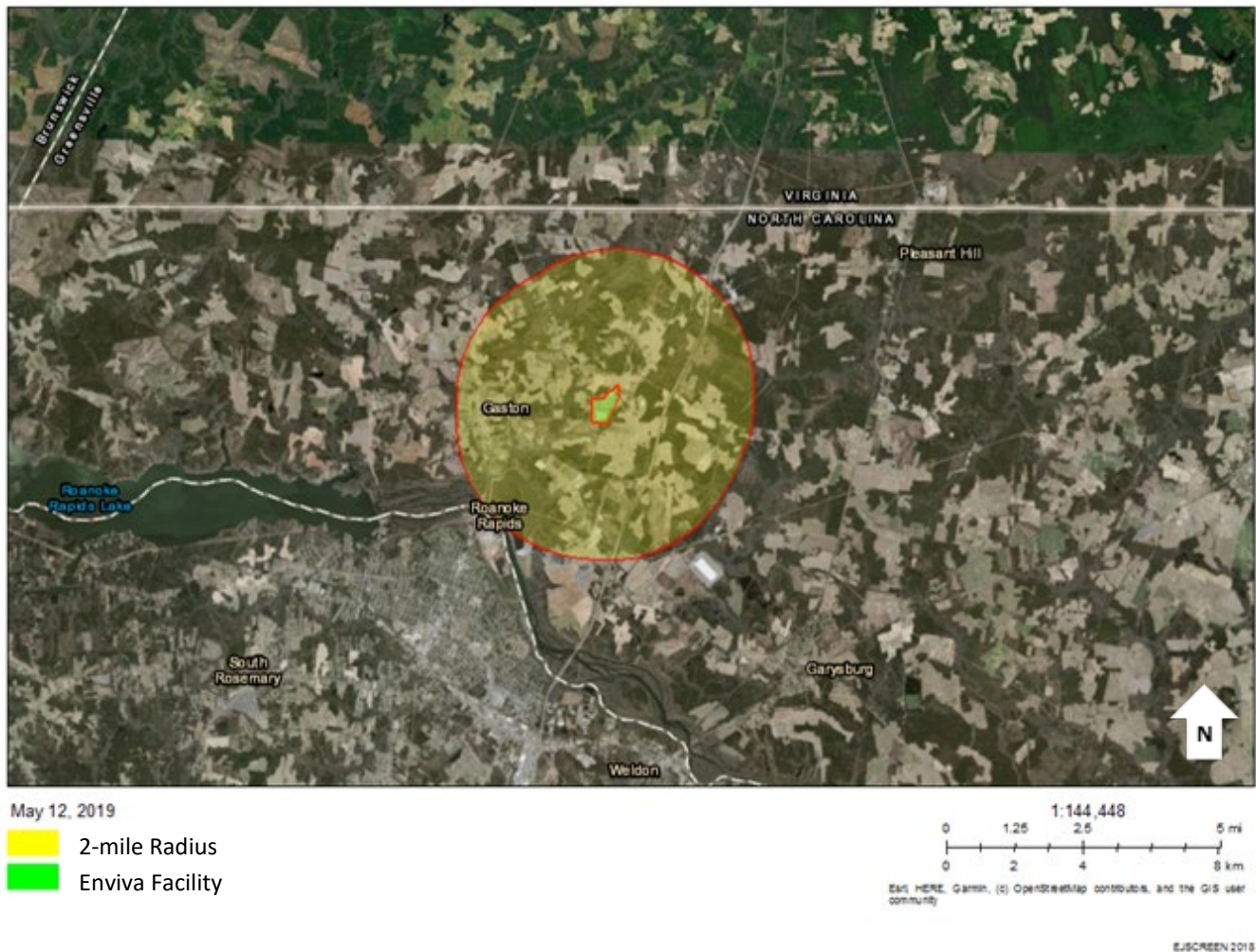
Figure 1. Facility location within two-mile radius.

Northampton County is designated as a Tier 1 county by NC Department of Commerce. The tier designation process assigns each county to a designation of Tier 1 (most distressed), Tier Two, or Tier Three (least distressed). By law, the designation of tiers requires that 40 Tier One, 40 Tier Two, and 20 Tier Three counties are assigned each year. Northampton County has been designated as Tier 1 for at least the last five consecutive years. The two-mile radius used in this analysis is wholly within Northampton County, and is encompassed by census tracts 9204.01 and

9203 (Figure 2). Census tracts are small, relatively permanent statistical subdivisions of a county with a unique numeric code (US Census Bureau). The two census tracts do not encompass any Federal or State American Indian Reservation, Off-Reservation Trust Land, Statistical Area, Designated Tribal Area, or Native Regional Corporation. However, the North Carolina Commission of Indian Affairs does identify Northampton county as a County in which the Meherin State recognized Tribe resides.
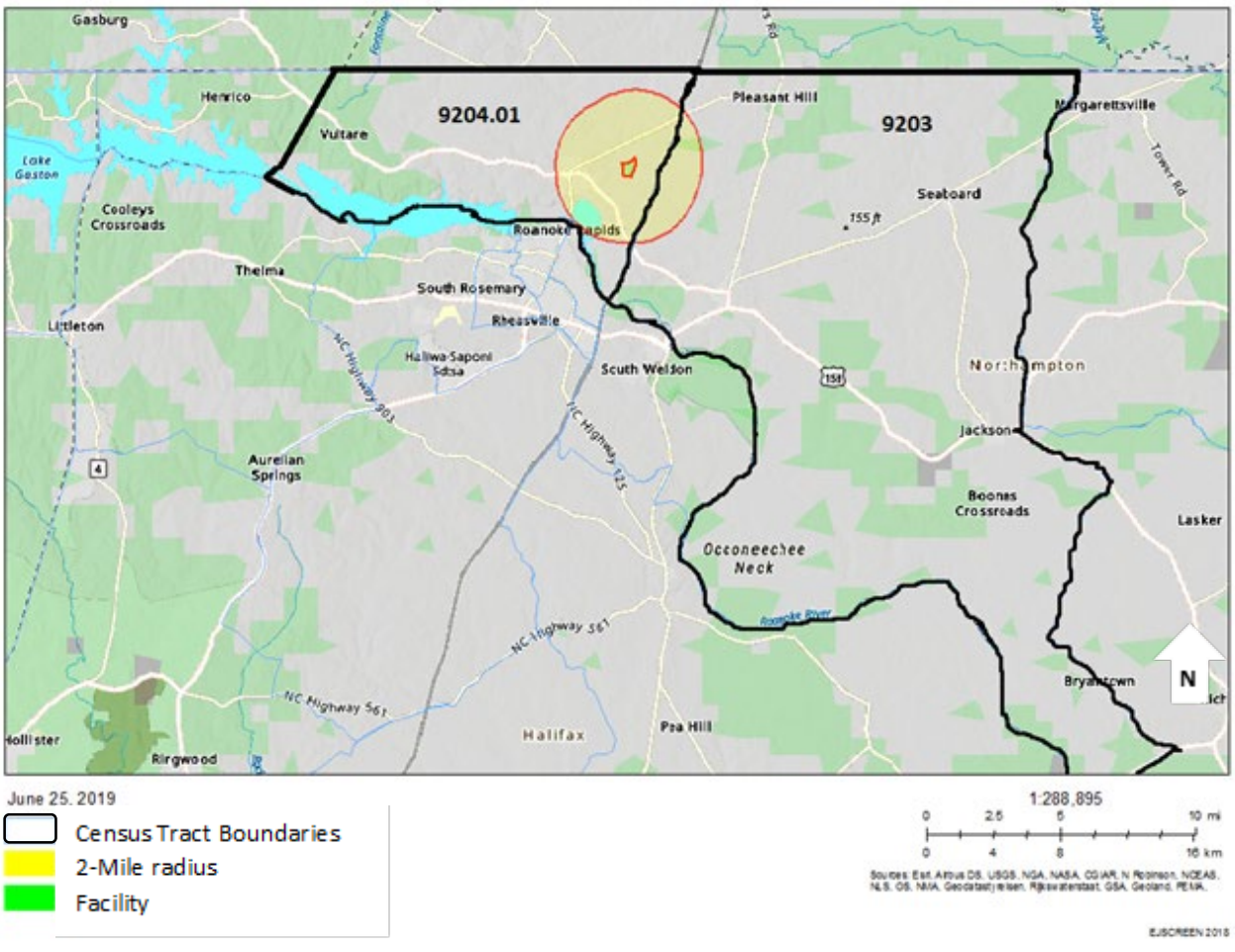
Figure 2. Census tracts surrounding facility location.

5   Regional and Local Settings

The following sections on race and ethnicity, age and sex, disability, poverty, household income, and Limited English Proficiency (LEP) populations are based on US Census Bureau data, first at a state and county level (regional setting), and then at a census tract and project radius level (local setting). The surrounding census tracts included will be any census tract that overlaps into the two-mile radius. Demographics of Northampton county will be compared to the local level data to identify any disparities surrounding the project area.   Using standard environmental justice guidelines from the EPA and NEPA documentation, the following conditions will be flagged as potential communities of concern:

1. 10% or more in comparison to the county average
2. 50% or more minority
3. 5% or more in comparison to the county average for poverty

For example, if a census tract has 35% of the population classified as low income but the county consists of 30% low income, the census tract would exceed the county average by 16.7% and thus be flagged as a potential area of concern. For this report, census data from 2010 and census data estimates from 2011-2015 and 2012-2016 were used. 2010 Census Bureau data is real data gathered every ten years, whereas the estimates from the more recent years are modeled based on the real data. For the data gathered from the 2012-2016 and 2011-2015 estimates, the margin of error (MOE) has been included. This value is a measure of the possible variation of the estimate around the population value (US Census Bureau). 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 +/-).

5.1 Race and Ethnicity

Regional Setting

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, North Carolina's population totaled 9,535,483 individuals (Table 5-1). The three most common racial groups across the state were White (68.5%), Black or African-American (21.5%) and Hispanic or Latino (of any race) at 8.4%.

Northampton County had a total population of 22,099 individuals (Table 5-1). The two most common racial groups within the county were Black or African American (58.4%), and White (39.2%). The Black or African American population (58.4%) was greater than 10% different when compared to the state (21.5%).

7

Table 5--1 Regional Setting - Race and Ethnicity

	North Carolina		Northampton County	
Race and Ethnicity	Number	Percent	Number	Percent
Total Population	9,535,483	100	22,099	100
White	6,528,950	68.5	8,668	39.2
Black or African American	2,048,628	21.5	12,935	**58.4**
American Indian or Alaska Native	122,110	1.3	101	0.5
Asian	208,962	2.2	56	0.5
Native Hawaiian and Other Pacific Islander	6,604	0.1	2	0.0
Some other Race	414,030	4.3	181	0.8
Two or More Races	206,199	2.2	213	1.0
HISPANIC OR LATINO (of any race)	800,120	8.4	305	1.4
Mexican	486,960	5.1	219	1.0
Puerto Rican	71,800	0.8	30	0.1
Cuban	18,079	2.3	3	0.0
Other Hispanic or Latino	223,281	2.3	53	0.2

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

Local Setting

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, the largest population within Census Tract 9203 was Black or African America, with a population of 4,448 (73.5%) (Table 5-2). The next largest populations were White (25.2%), Two or More Races (.6%), and Hispanic or Latino (.6%). Black or African American populations were greater than 10% different when compared to both county and state populations at 73.5% for the census tract compared to 58.4% in Northampton County and 21.5% for the state population.

The largest population within Census Tract 9204.01 was Black, with a population of 2,846 (65.1%). The next largest populations were White (32.1%), Hispanic or Latino (1.5%), and Some Other Race (1.1%). Census Tract 9204.01 showed a greater than 10% difference when compared to both county and state populations for Black or African American at 65.1% for the census tract compared to 58.4% in Northampton County and 21.5% for the state population.

Within the one-mile radius, EJSCREEN identified a total population of 694 (Table 5-2). The largest population was Black or African American with a total of 506 individuals (73%), followed by White with 170 individuals (25%). The Black or African American population within the one-mile radius was greater than 10% when compared to the county and the state. Within the two-

mile radius, EJSCREEN identified a total population of 2,246 (Table 5-2). The largest population within the two-mile radius was Black or African American, with a total of 1,486 individuals (66% of the total population), followed by White (32.0%). The Black or African American population within the two-mile radius was greater than 10% when compared to the county and the state.

Table 5-2. Local Setting – Race and Ethnicity

Race and Ethnicity	Project Area-1 Mile		Project Area-2 Miles		Census Tract 9203		Census Tract 9204.01	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	694	100	2,246	100	6,055	100	4,370	100
White	170	25.0	708	32.0	1,526	25.2	1,401	32.1
Black or African American	506	**73.0**	1,486	**66.0**	4,448	**73.5**	2,846	**65.1**
American Indian or Alaska Native	2	0	12	1.0	28	0.5	23	0.5
Asian	1	0	0	0.0	3	0	14	0.3
Native Hawaiian and Other Pacific Islander	0	0	0	0.0	2	0	0	0.0
Some other Race	11	2.0	16	1.0	10	0.2	47	1.1
Two or More Races	3	0	24	1.0	38	0.6	39	0.9
HISPANIC OR LATINO (of any race)	17	2.0	88	4.0	36	0.6	65	1.5
Mexican					24	0.4	45	1.0
Puerto Rican					6	0.1	6	0.1
Cuban					0	0	0	0.0
Other Hispanic or Latino					6	0.1	14	0.3

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

5.2 Age and Sex

Regional Setting

According to the US Census Bureau, QT-P1, Age Groups and Sex: 2010 Census Summary File 1, North Carolina had a total population of 9,535,483 individuals. The largest percentage of the total state population (63.1%) was between the ages of 18 and 64, with an overall median age of 36 for males and 38.7 for females (Table 5-3).

Northampton County had a total population of 22,099 individuals. The largest percentage of the total county population (59.6%) was between the ages of 18 and 64, with a median age of 42.7 for males and 47.6 for females (Table 5-3). The 65 years and older population (19.6%) was greater than 10% of the state average for both sexes and for both male and female.

Table 5--3. Regional Setting - Age Groups and Sex

| | North Carolina | | | | | |
| | Number | | | Percent | | |
Age	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population	9,535,483	4,645,492	4,889,991	100	100	100
Under 5 years	632,040	322,871	309,169	6.6	7	6.3
Under 18 years	2,281,635	1,167,303	1,114,332	23.9	25.1	22.8
18 to 64 years	6,019,769	2,954,233	3,065,536	63.1	63.6	62.7
65 years and over	1,234,079	523,956	710,123	12.9	11.3	14.5
Median Age	37.4	36	38.7			

| | Northampton County | | | | | |
| | Number | | | Percent | | |
Age	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population	22,099	10,714	11,385	100	100	100
Under 5 years	1,197	634	563	5.4	5.9	4.9
Under 18 years	4,600	2,406	2,194	20.8	22.5	19.3
18 to 64 years	13,163	6,541	6,622	59.6	61.1	58.2
65 years and over	4,336	1,767	2,569	**19.6**	**16.5**	**22.6**
Median Age	45.5	42.7	47.6			

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

Local Setting

According to the US Census Bureau, QT-P1, Age Groups and Sex: 2010 Census Summary File 1, census tracts 9203 and 9204.01 had a total population of 6,055 and 4,370, respectively. The largest percentage of the population for Census Tract 9203 (62.3%) was between the ages of 18 and 64, with a median age of 40.9 for males and 48.4 for females (Table 5-4). The 65 years and older population (18.9%) was greater than 10% the state average. The largest percentage of the population for Census Tract 9204.01 (60%) was between the ages of 18 and 64, with a median age of 40.4 for males and 43.5 for females (Table 5-4). The 65 years and older population (16.4%) was greater than 10% the state average.

Within the one-mile radius, EJSCREEN identified a total of 694 individuals (Table 5-5). The largest percentage of the population of the one-mile radius is 18+ with 77% which is over 10% greater than both the county and state average. Within the two-mile radius, EJSCREEN identified a total population of 845 individuals (Table 5-5). The largest percentage of the population for the two-mile radius was 18+ at 77%. This was greater than both the county and state average. For both buffer areas, the 65 years and older average was over 10% greater than the state.

Table 5--2. Local Setting - Age Groups and Sex (Census Tracts)

Age	Census Tract 9203						Census Tract 9204.01					
	Number			Percent			Number			Percent		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	6,055	3,077	2,978	100	100	100	4370	2,062	2,308	100	100	100
Under 5 years	275	140	135	4.5	4.5	4.5	259	142	117	5.9	6.9	5.1
Under 18 years	1,138	617	521	18.8	20.1	17.5	1,032	542	490	23.6	26.3	21.2
18 to 64 years	3,773	2,026	1,747	62.3	**65.8**	58.7	2,623	1,201	1,422	60	58.2	61.6
65 years and over	1,144.0	434	710	**18.9**	**14.1**	**23.8**	715	319	396	**16.4**	**15.5**	**17.2**
Median Age	45.3	40.9	48.4				42.3	40.4	43.5			

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

11

Table 5--5. Local Setting - Age Groups and Sex (Project Area)

| Age | Project Area - 1 Mile | | | | | | Project Area- 2 Miles | | | | | |
| | Number | | | Percent | | | Number | | | Percent | | |
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Total Population	694	325	369	100	47	53	2388	1127	1261	100	47	53
Under 5 years	35			5			130			5		
Under 18 years	157			23			544			23		
18+	537			**77**			1844			**77**		
65 years and over	102			**15**			374			**16**		

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

5.3 Disability

Regional Setting

According to the 2012-2016 American Community Survey 5-Year Estimates, Table S1810 from the US Census Bureau, the state of North Carolina had an estimated total population of 9,745,671 noninstitutionalized citizens. Of those individuals, an estimated 13.7% (MOE +/- 0.1%) had a disability. The largest population of disabled civilians were 65 years and over (37.0%, MOE +/- 0.4%). The second largest population was the 18 to 64-year-old population at 11.7% (MOE +/- 0.1%). By race, American Indian and Alaskan Native had the highest estimated disability rate of 17.8% (MOE +/- 0.7%). Black or African-American, White, and Two or More Races were the next three highest population estimates with disabilities in North Carolina, at 15.2% (MOE +/-0.2%, 14.5% (MOE +/- 0.1%), and 12.1% (MOE +/- 0.6%), respectively (Table 5-6).

Table 5-6. Regional Setting- North Carolina Disability Rates

Subject	Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	9,745,671	1,984	1,331,570	9,030	13.7	0.1
Population under 5 years	605,854	577	5,472	618	0.9	0.1
Population 5 to 17 years	1,678,393	820	95,959	2,436	5.7	0.1
Population 18 to 64 years	6,043,522	2,047	706,159	4,315	11.7	0.1
Population 65 years and over	1,417,902	1,060	523,980	2,503	37.0	0.4
SEX						
Male	4,684,967	2,276	635,546	6,205	13.6	0.1
Female	5,060,704	1,416	696,024	5,292	13.8	0.1
RACE AND HISPANIC OR LATINO ORIGIN						
White	6,760,094	2,339	908,963	7,348	14.5	0.1
Black or African-American	2,080,284	4,902	315,319	3,945	15.2	0.2
American Indian and Alaska Native	114,361	1,780	20,409	838	17.8	0.7
Asian	252,557	1,686	12,401	812	4.9	0.3
Native Hawaiian and Other Pacific Islander	6,081	887	725	431	11.9	7.0
Some other Race	294,651	8,124	14,358	1,153	4.9	0.4
Two or more races	237,452	5,743	28,705	1,429	12.1	0.6
Hispanic or Latino	867,538	802	51,132	2,008	5.9	0.2
Source: US Census, 2012-2016 ACS 5-Year Estimates						

Northampton County had an estimated total population of 19,846 noninstitutionalized citizens. Of those individuals, an estimated 23.4% (MOE +/- 1.9%) had a disability. The total population with disabilities in Northampton County was more than 10% different than the state level of 13.7%. The largest population of disabled civilians were 65 years and older (43.2%, MOE +/- 5.9%). The second largest population was the 18 to 64-year population at 20.5% (MOE +/-

3.1%). All population groups, with the exception of Under 5 years, had a disability percent estimate that was more than 10% of the state level. By race, American Indian and Alaska Native had the highest estimated disability rate of 53.4% (MOE +/- 37%). Asian, Two or More Races, and Black or African American were the next highest groups with rates of 34.1% (MOE +/- 38.8%), 32.9% (MOE 38.8%), and 24.2% (MOE 2.6%). All of the race or origin populations with the exception Native Hawaiian and Other Pacific Islander, Some other Race, and Hispanic or Latino had a disability percent estimate that was more than 10% of the state level (Table 5-7).

Table 5-7. Regional Setting- Northampton County Disability

Subject	Northampton County					
	Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	19,846	162	4,635	372	**23.4**	1.9
Population under 5 years	962	19	0	22	0.0	3.3
Population 5 to 17 years	2,930	116	348	129	**11.9**	4.4
Population 18 to 64 years	11,464	121	2,349	177	**20.5**	3.1
Population 65 years and over	4,490	65	1,938	135	**43.2**	5.9
SEX						
Male	9,380	164	2,252	274	**24.0**	2.9
Female	10,466	85	2,383	241	**22.8**	2.3
RACE AND HISPANIC OR LATINO ORIGIN						
White	7,808	157	1,686	202	**21.6**	2.5
Black or African American	11,459	193	2,777	307	**24.2**	2.6
American Indian and Alaska Native	88	45	47	36	**53.4**	37.0
Asian	44	33	15	23	**34.1**	38.8
Native Hawaiian and Other Pacific Islander	13	22	0	22	0.0	82.3
Some other Race	114	122	5	12	4.4	10.2
Two or more races	320	137	105	82	**32.9**	23.6
Hispanic or Latino	381	36	11	14	2.9	3.8
All **bolded** and orange highlighted cells indicate a difference that is greater than 10% when compared to the State						
Source: US Census, 2012-2016 ACS 5-Year Estimates						

Local Setting

According to the 2012-2016 American Community Survey 5-Year Estimates, S1810 from the US Census Bureau, Census Tracts 9203 and 9204.01 had a total civilian noninstitutionalized population of 5,183 and 4,376, respectively (Table 5-8). The largest percentage of the total Census Tract 9203 population with a disability (43.5%, MOE +/- 14.6%) was the population 65 years and over. The second largest was at 17.5% (MOE +/- 14.9%) for the 18 to 64-year age range. All population groups except for Under 5 Years had a greater than 10% difference when compared to the state. The White population had the highest estimated disability rate by race at 28.1% (MOE +/- 4.8%) which was greater than 10% different from the state and county population. The Black or African-American population had an estimated disability rate of 20.3% (MOE +/-8.0%) and was greater than 10% the state average.

The largest percentage of the total Census Tract 9204.01 population with a disability (54.1%, MOE +/- 13.3%) was the population 65 years and over. The second largest was at 17.6% (MOE +/- 5.5%) for the 18 to 64-year age range. Two or more races had the largest population by disability of a race or origin group at 86.6% (MOE +/-6.6%) followed by Black or African American at 24.0% (MOE +/-5.8%) and American Indian and Alaska Native at 21.1% (MOE +/- 34.7%). Almost all populations had a difference that was greater than 10% when compared to the state. EJSCREEN does not provide data on disability, so was not included for the one and two-mile radius.

15

Table 5-8. Local Setting- Census Tract Disability

Subject	Census Tract 9203						Census Tract 9204.01					
	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	5,183	456	1,138	225	**22.0**	4.0	4,376	417	1,000	193	**22.9**	4.4
Population under 5 years	295	109	0	17	0.0	10.4	103	67	0	111	0.0	26.5
Population 5 to 17 years	698	203	75	60	**10.7**	8.4	874	188	118	102	**13.5**	10.6
Population 18 to 64 years	2,925	195	513	92	**17.5**	14.9	2,623	188	462	74	**17.6**	5.5
Population 65 years and over	1,265	135	550	101	**43.5**	14.6	776	96	420	72	**54.1**	13.3
SEX												
Male	2,460	269	524	156	**21.3**	5.8	1,915	255	344	111	**18.0**	5.5
Female	2,723	296	614	132	**22.5**	5.0	2,461	265	656	140	**26.7**	5.5
RACE AND HISPANIC OR LATINO ORIGIN												
White	1,159	299	326	150	**28.1**	9.8	1,234	197	238	87	**19.3**	6.1
Black or African American	4,000	410	812	168	**20.3**	4.2	2,985	390	717	191	**24.0**	5.8
American Indian and Alaska Native	0	17	0	17	-	-	38	49	8	15	**21.1**	34.7
Asian	5	7	0	17	0.0	100.0	0	12	0	12	-	-
Native Hawaiian and Other Pacific Islander	0	17	0	17	-	-	0	12	0	12	-	-
Some other Race	0	17	0	17	-	-	76	112	0	12	0.0	33.2
Two or more races	19	29	0	17	0.0	68.0	43	44	37	43	**86.0**	6.6
Hispanic or Latino	12	15	0	17	0.0	85.6	172	118	0	12	0.0	17.1

All **bolded** and orange highlighted cells indicate a difference that is greater than 10% when compared to the State
All **bolded** and blue highlighted cells indicate a difference that is greater than 10% when compared to the County and State.
Source: US Census, 2012-2016 ACS 5-Year Estimates

16

5.4 Poverty

Regional Setting

According to the Census Table S1701, Poverty Status in the Past 12 Months, 2012-2016 American Community Survey 5-Year Estimates, from the US Census Bureau, North Carolina had an estimated population of 9,783,738, with 16.1% (MOE +/- 0.2%) below the poverty level (Table 5-9). Across all subjects, Some Other Race had the highest percent living below the poverty level at 32.0% (MOE +/- 1.4%). The next three subjects with the highest poverty level were American Indian and Alaska Native (28.1%, MOE +/- 1.5%), followed by Hispanic or Latin at 30.1% (MOE +/- .8%), American Indian and Alaska Native at 26.2% (MOE +/- 1.5%), and Black or African-American at 24.9% (MOE +/- .4%). The age group with the highest population below poverty was under 18 (22.9%, MOE +/- 0.4%), followed by 18 to 64 (15.3%, MOE +/- 0.2%).

Table 5-9. Poverty Status -North Carolina

Subject	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	9,783,738	1,751	1,579,871	17,833	16.1	0.2
AGE						
Under 18	2,256,186	1,865	516,821	9,185	22.9	0.4
18 to 64	6,053,546	1,090	923,859	9,663	15.3	0.2
65 years and over	1,474,006	881	139,191	2,754	9.4	0.2
SEX						
Male	4,733,269	2,259	694,126	9,539	14.7	0.2
Female	5,050,469	2,443	885,745	10,217	17.5	0.2
RACE AND HISPANIC OR LATINO ORIGIN						
White	6,776,691	7,591	845,573	13,639	12.5	0.2
Black or African-American	2,077,559	4,736	517,071	8,162	24.9	0.4
American Indian and Alaska Native	114,751	1,804	30,017	1,757	26.2	1.5
Asian	262,596	1,970	33,282	2,248	12.7	0.9
Native Hawaiian and Other Pacific Islander	5,886	537	1,097	297	18.6	4.9
Some other Race	305,431	7,334	97,609	5,276	32.0	1.4
Two or more Races	240,824	5,455	55,222	2,570	22.9	1.0
Hispanic or Latino	894,810	1,312	268,985	7,035	30.1	0.8
All individuals below:						
50 percent of poverty level	688,118	10,757				
125 percent of poverty level	2,094,292	20,441				
150 percent of poverty level	2,596,425	22,139				
185 percent of poverty level	3,291,075	23,334				
200 percent of poverty level	3,571,557	25,056				
Source: US Census, 2013-2017 ACS 5-Year Estimates						

Northampton County had an estimated total population of 19,507 for whom poverty status has been determined, with 25.4% below poverty (MOE +/- 2.8%). American Indian and Alaska Native had the highest percent living below the poverty level with 61.9% (MOE +/- 29.9%). The next groups based on race or origin were Asian at 45.5% (MOE +/- 47.2%), Hispanic or Latino origin at 36.8% (MOE +/- 27.1%), and Black or African American at 33.1% (MOE +/- 4.3%). All race or origin populations with the exception of Native Hawaiian and other Pacific Islander, Some Other Race, and Two or more races had greater than 5% differences in comparison to their respective state populations (Table 5-10).

Table 5-10. Poverty Status - Northampton County

Subject	Northampton County					
	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	19,507	169	4,955	552	**25.4**	2.8
AGE						
Under 18 years	3,639	92	1,472	261	**40.5**	7.1
18 to 64 years	11,270	122	2,748	356	**24.4**	3.2
65 years and over	4,598	83	735	176	**16**	3.7
SEX						
Male	9,262	133	2,162	305	**23.3**	3.2
Female	10,245	114	2,793	335	**27.3**	3.3
RACE AND HISPANIC OR LATINO ORIGIN						
White alone	7,772	141	1,068	275	**13.7**	3.6
Black or African American alone	11,151	223	3,690	492	**33.1**	4.3
American Indian and Alaska Native alone	126	65	78	55	**61.9**	29.9
Asian alone	44	36	20	28	**45.5**	47.2
Native Hawaiian and Other Pacific Islander alone	0	22	0	22	-	
Some other race alone	109	90	26	45	23.9	39.1
Two or more races	305	182	73	75	23.9	22.6
Hispanic or Latino origin (of any race)	402	38	148	106	**36.8**	27.1
All individuals below:						
50 percent of poverty level	2,094	449				
125 percent of poverty level	6,202	535				
150 percent of poverty level	7,386	645				
185 percent of poverty level	9,048	684				
200 percent of poverty level	9,714	645				

Source: US Census, 2013-2017 ACS 5-Year Estimates
All **bolded** and orange highlighted cells indicate a difference that is greater than 5% when compared to the State.

Local Setting

According to the Census Table S1701, Poverty Status in the Past 12 Months, 2013-2017 American Community Survey 5-Year Estimates, from the US Census Bureau, Census Tracts 9203 and 9204.01 had estimated populations of 5,063, with 29.4% (MOE +/- 7.9%) and 4,093, with 26.2% (MOE +/- 7.4%) below the poverty level, respectively (Table 5-11), with this percentage greater than 5% more than both the county and the state for Census Tract 9203, and the state for 9204.01. In Census Tract 9203, the largest percentage of Poverty Status for Age was under 18 years (43.5%, MOE +/-16.3%) followed by 29.2% (MOE+/-8%) for 16 to 64 years. All age groups had a percentage rate that was greater than 5% when compared to the state, and the 16-64, and 65+ groups also were greater than 5% when compared to the county. Poverty status for both Males and Females were also greater than 5% different than the state average with the male percent being larger than the county average as well (31% MOE +/- 9.5%). The largest racial group experiencing poverty in Census Tract 9203 was Black or African American at 35.2% (MOE +/- 9.6), which is over 5% different when compared to the state average (Table 5-11).

In Census Tract 9201.01 all age groups have a greater than 5% difference when compared to the state, and the 65 years and older group had a greater than 5% difference compared to the state and county average at 23.2%. All racial and origin groups in Census Tract 9204.01 were greater than 5% of the state average except for Asian alone and Native Hawaiian and other Pacific Islander Alone (for which there was no data). Some other race, two or more races, and Hispanic or Latino origin also had a greater than 5% difference when compared to the county.

Table 5-11. Poverty Status – Census Tracts 9203 and 9204.01 (Northampton County)

Subject	Census Tract 9203						Census Tract 9204.01					
	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	5,063	404	1,486	420	**29.4**	7.9	4,093	390	1,073	337	**26.2**	7.4
AGE												
Under 18 years	837	196	364	179	**43.5**	16.3	869	203	321	149	**36.9**	12.9
18 to 64 years	2,860	279	835	227	**29.2**	8	2,318	280	542	196	**23.4**	7.7
65 years and over	1,366	129	287	114	**21.0**	8.4	906	135	210	94	**23.2**	9.4
SEX												
Male	2,416	243	749	254	**31.0**	9.5	1,794	219	442	177	**24.6**	8.9
Female	2,647	244	737	219	**27.8**	8.1	2,299	253	631	204	**27.4**	8.4
RACE AND HISPANIC OR LATINO ORIGIN												
White alone	1,097	319	103	81	9.4	8.1	1,315	229	217	111	**16.5**	7.4
Black or African American alone	3,934	382	1,383	403	**35.2**	9.6	2,663	372	783	299	**29.4**	9.9
American Indian and Alaska Native alone	0	17	0	17	-	-	64	63	32	49	**50.0**	47.6
Asian alone	0	17	0	17	-	-	0	12	0	12	-	**
Native Hawaiian and Other Pacific Islander alone	0	17	0	17	-	-	0	12	0	12	-	**
Some other race alone	0	17	0	17	-	-	10	16	10	16	**100.0**	93.8
Two or more races	32	45	0	17	0.0	52.4	41	54	31	49	**75.6**	47.3
Hispanic or Latino origin (of any race)	8	9	0	17	0.0	100	134	105	97	79	**72.4**	20.8
All individuals below:												
50 percent of poverty level	534	249					426	270				
125 percent of poverty level	1,839	398					1,412	364				
150 percent of poverty level	2,263	438					1,674	372				
185 percent of poverty level	2,647	419					1,982	362				
200 percent of poverty level	2,966	381					2,114	352				

Source: US Census, ACS 5 year estimates 2013-2017; All orange highlighted cells indicate a difference that is greater than 5% when compared to the State. All **bolded** and blue highlighted cells indicate a difference that is greater than 5% when compared to the County and State.

5.5 Household Income

Regional Setting

The following table (Table 5-12) was compiled using data from the Census Table S1901, Income in the Past 12 Months (in 2016 Inflation-Adjusted Dollars) 2012-2016 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 18.0%. The median household income was $48,256 and the mean income was $67,367. The household income range for Northampton County with the highest percent was $15,000 to $24,999 at 16.3%. The median income was $31,543 and the mean income was $43,843. All income ranges less than $35,000 had percentages that were more than 10% higher than the state ranges.

Table 5-12. Household Income

Subject	North Carolina Households		Northampton County Households		Census Tract 9203 Households		Census Tract 9204.01 Households	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total	3,815,392	9,701	8,670	281	2,331	172	1,681	150
Less than $10,000	7.7	0.1	**13.4**	2.4	**14.7**	5.0	**11.7**	5.0
$10,000 to $14,999	6.1	0.1	**10.6**	2.3	**8.4**	3.7	**12.4**	5.7
$15,000 to $24,999	11.5	0.1	**16.3**	2.4	**16.7**	5.2	**17.7**	5.7
$25,000 to $34,999	11.4	0.1	**14.4**	2.7	**20.7**	5.7	**10.9**	3.5
$35,000 to $49,999	14.7	0.1	14.7	2.2	13.5	3.8	15.3	5.2
$50,000 to $74,999	18.0	0.1	14.1	2.6	13.2	3.7	12.7	5.1
$75,000 to $99,999	11.6	0.1	7.8	1.5	7.0	3.0	7.0	3.4
$100,000 to $149,999	11.1	0.1	7	1.4	5.1	2.7	10.1	4.3
$150,000 to $199,999	3.9	0.1	1	0.5	0.6	0.6	1.7	1.7
$200,000 or more	3.9	0.1	0.7	0.4	0.1	0.3	0.6	1.0
Median income (dollars)	48,256	229	31,543	1,926	29,945	2,621	29,953	9,082
Mean income (dollars)	67,367	267	43,843	2,560	37,739	3,397	44,814	5,350

All **bolded** and orange highlighted cells indicate a difference that is greater than 10% when compared to the State
All **bolded** and blue highlighted cells indicate a difference that is greater than 10% when compared to the County and State.
Source: US Census, 2012-2016 ACS 5-Year Estimates

Local Setting

According to the Census Table S1901, Income in the Past 12 Months (in 2016 Inflation-Adjusted Dollars) 2012-2016 American Community Survey 5-Year Estimates, Census Tract 9203 had a median income of $29,945 and a mean income of $37,739. All income groups below $35,000 were greater than 10% when compared to the state, and the $25,000 to $34,999 income group was greater than 10% when compared to both the county and the state. The greatest population falls into the $15,000 to $24,999 income group. Census Tract 9204.01 had a median income of

21

$29,953 and a mean income of $44,814. All income groups below $35,000 were greater than 10% when compared to the state, and the $10,000 to $14,999 income group difference was greater than 10% when compared to both the county and the state. The greatest population falls into the $15,000 to $24,999 income group.

An EJSCREEN analysis of a one-mile and two-mile buffer surrounding the Northampton site showed that the greatest percent (28%) in the one-mile buffer fell in the $15,000-25,000 income group followed by the $15,000-$25,000 group (27%). The highest percent in the two-mile buffer area fell in the $15,000-$25,000 income group (24%), and the $25,000-$50,000 group (24%).

Table 5-13. Household Income– Project Radius

Subject	1 Mile			2 Miles		
	Number	Percent	MOE	Number	Percent	MOE
Number of Households	229	100		804	100	
Owner Occupied	159	69		538	67	
Renter Occupied	71	31		266	33	
Household Income						
<$15,000	63	27	95	196	24	95
$15,000-$25,000	41	28	73	132	16	73
$25,000-$50,000	47	20	91	195	24	91
$50,000-$75,000	20	9	62	105	13	62
$75,000+	58	25	69	176	22	69
Source: EJSCREEN 2012-2016 ACS Estimates						

Per Capita Income

Per capita income is the mean income computed for every man, woman, and child in a particular group including those living in group quarters. It is derived by dividing the aggregate income of a particular group by the total population in that group (US Census Bureau). Per Capita Income data was obtained through the Census Table B19301, Per Capita Income in the Past 12 Months (In 2017 Inflation-Adjusted Dollars), 2013-2017 American Community Survey 5-Year Estimates. The North Carolina per capita income estimate was $28,123. The Northampton County estimate is $19,126, and the estimates in the two census tracts were $16,184 (9203) and $18,641 (9204.01). Both the county and the two census tracts had a significantly lower Per Capita Income compared to the state (Table 5-14).

The EJSCREEN analysis also provided per capita income estimates for both a one-mile and two-mile buffer surrounding the Enviva Northampton site. The one-mile buffer area had an estimate of $18,257 while the two-mile buffer had an estimate of $17,434. Both of these are significantly lower than the state, but comparable to the county and the two census tracts.

Table 5-14. Per Capita Income

Location	Subject		Per Capita Income in Last 12 Months (Dollars)
North Carolina	Per Capita Income	Estimate	28,123
		Margin of Error +/-	130
Northampton County	Per Capita Income	Estimate	19,126
		Margin of Error +/-	977
Census Tract 9203	Per Capita Income	Estimate	16,184
		Margin of Error +/-	1,738
Census Tract 9204.01	Per Capita Income	Estimate	18,641
		Margin of Error +/-	2,381
One Mile	Per Capita Income	Estimate	18,257
		Margin of Error +/-	-
Two Miles	Per Capita Income	Estimate	17,434
		Margin of Error +/-	-
Source: US Census, 2013-2017 ACS 5-Year Estimates			

23

6 Limited English Proficiency (LEP)

The following table (Table 6-1) was completed using data from Census Table B16001, Language Spoken at Home by Ability to Speak English for the population 5 years and over, 2011-2015 American Community Survey 5-Year Estimates for Northampton County and Census Tracts 9203 and 9204.01. Per the Safe Harbor Guidelines, if an LEP Group is identified during the pre-permit issuance 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 will be prepared. 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 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 per the EPA guidance for LEP persons, and followed by DEQ when deemed appropriate. Across both census tracts, Spanish or Spanish Creole is the major language spoken besides English, with an estimated 112 individuals identified who "speak English less than very well" (Table 6-1). However, the 5% percent threshold was not reached for either census tract, so no translation or interpretation services will be conducted at this time. DEQ will revisit the Safe Harbor guidelines if additional language information or requests arise throughout the permitting process.
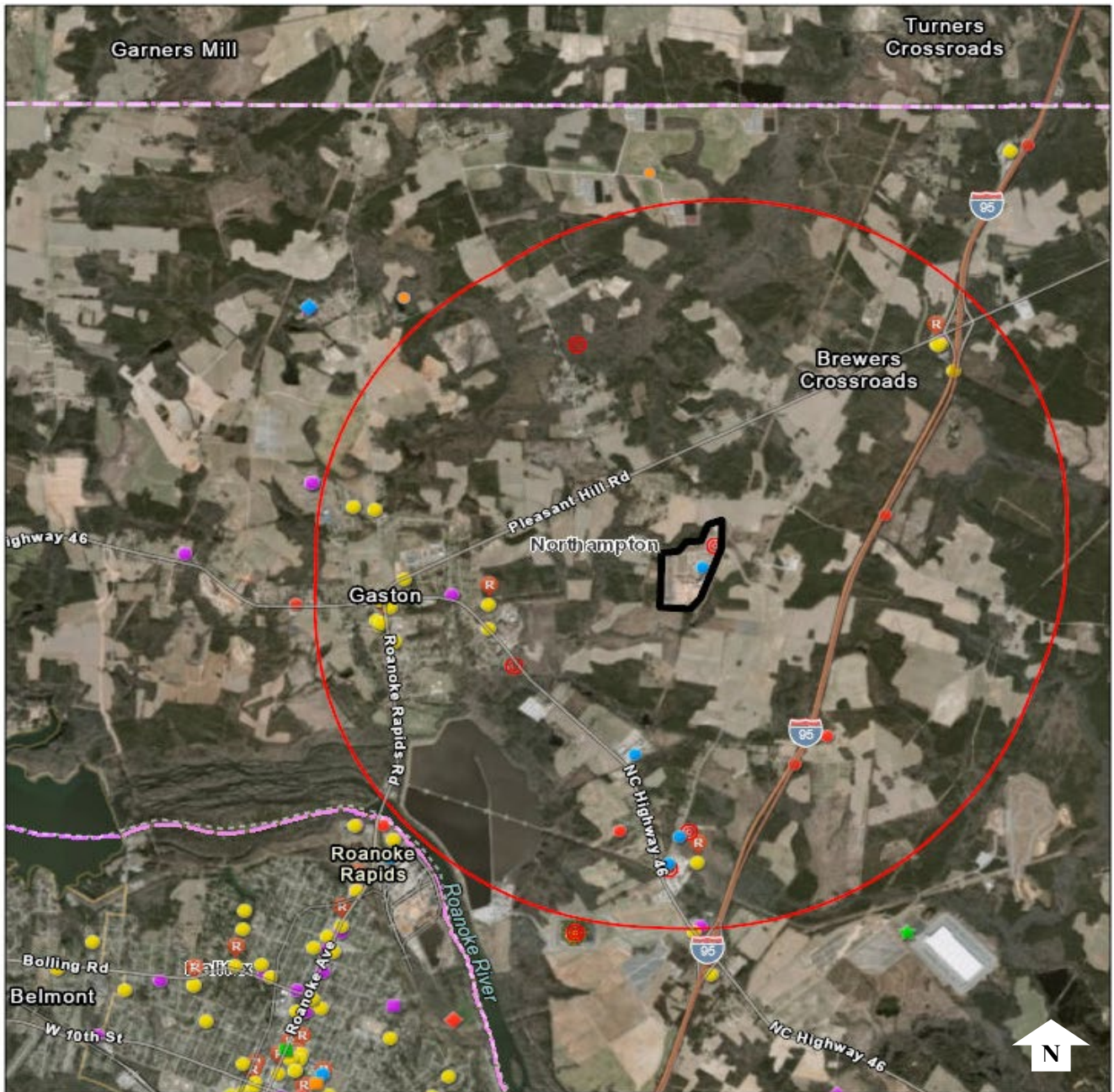
Table 6-1. Limited English Proficiency

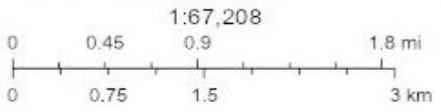|	Northampton County		Census Tract 9203		Census Tract 9204.01	
1. LANGUAGE SPOKEN AT HOME	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**	**Estimate**	**Margin of Error**
Total (population 5 years and over):	19,936	69	5,659	397	4,100	421
Speak only English	19,475	116	5,564	376	3,924	418
Spanish or Spanish Creole:	329	138	48	36	164	100
Speak English "very well"	146	83	42	34	58	61
Speak English less than "very well"	183	93	6	12	106	53
Source: US Census Bureau ACS Estimates 2011-2015						

7 Local Industrial Sites

Within the 2-mile radius of the Enviva facility, there are a total of 38 facility permits or incident reports (as of April 21, 2021), not including the existing permits for the Enviva Northampton facility (Figure 5). Of those 38 within the 2-mile radius;

- 5 are NPDES stormwater permits
- 3 are air quality permitted facilities
- 17 are underground storage tank incidents
- 5 are above ground storage tank incidents; and
- 4 are land use restrictions or notices

The other 3 air quality permits are for Gaston Cooperative Inc., Rightmyer Machine Rentals, Inc., and the Rose Brothers Paving Co Inc- Gaston Asphalt Plant.

Figure 5. Permitted facilities and incidents within the 2-mile radius surrounding the Enviva Facility.

26

8 Local Sensitive Receptors

The 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 a healthy individual aged between 18 and 64.

Within the two-mile project radius, the following potential sensitive receptors were identified (Figure 4):

- Gaston College Preparatory School

- Lebanon Church

- First Evangelical Methodist Church

- Dwight Hall Recreation Park

- Gaston Church of Christ

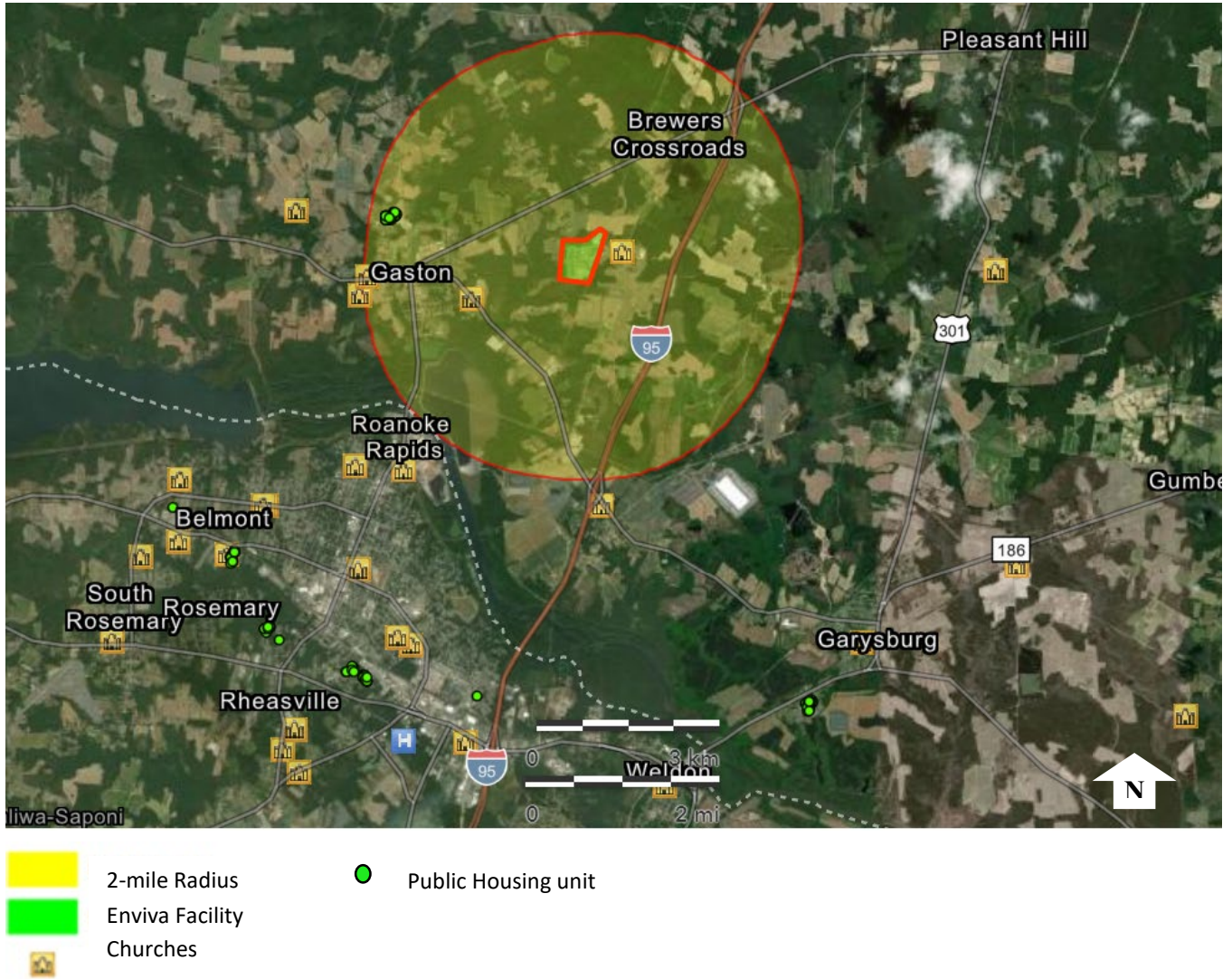- Grace Baptist Church

- Hampton Manor Assisted Living Facility

Figure 6. Sensitive receptors surrounding the Enviva facility

9 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 2021 report, out of all 100 counties in North Carolina (with 1 indicating the healthiest), Northampton County ranks 91st in health factors and 85th in health outcomes (Figure 7).
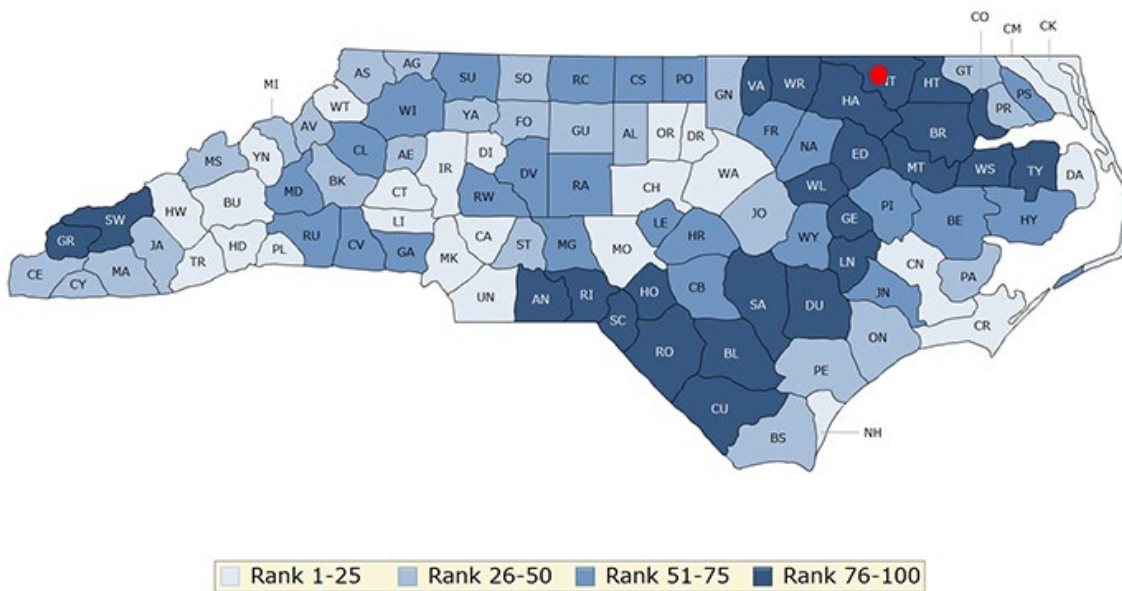

Figure 7. County health rankings for North Carolina, provided by the University of Wisconsin Public Health Institute.

According to the NC DEQ Community Mapping System Environmental Justice Tool, all causes of death (per 100,000 deaths) identified showed a higher rate across Northampton County than the state, except for heart disease and stroke (Table 9-1). Preterm birth rates for the Northampton County (12.9) were also higher than the state average (10). However, total asthma hospitalizations for the county (28) were lower than the state average (90).

Table 9--1. Health Assessment - Causes of Death (Northampton County)

Cause of Death	Northampton County	North Carolina
Cancer	188.7	169.1
Heart Disease	157.3	163.7
Stroke	41.2	43.1
Cardiovascular Disease	226.2	221.9
Diabetes	43.7	22.8
Source: NCDEQ 2019 EJ Tool		

10 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). This report examined the demographic and environmental conditions in North Carolina, Northampton County, census tracts 9203 and 9204.01, and the one-mile and two-mile radius around the Enviva Northampton facility. Emission control plans outlined in the permit modification application and county level health data were also included.

It is important to keep in mind that based on the available data, the following limitations of this report: census data is from 2010 and may be outdated; the more recent census data through 2016 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; some of the census tracts slightly overlap with the two-mile radius; and the Department cannot determine which populations are in that small amount of overlap around the facility.

The Department assessed the available demographic and socioeconomic data of the communities surrounding the Enviva Northampton, LLC facility in regard to its permit application. The racial composition of the immediate area shows a significantly larger proportion of Black or African American residents (73% in one-mile buffer, 66% in two-mile buffer) when compared to the county and the state. The census tracts and county also show a higher proportion of Black or African American residents when compared to the state. In addition, disability estimates for almost every population group at the census tract level are significantly higher than the state, and in many cases, the county rates as well. Poverty status is high, with 29.4% of individuals in Census Tract 9203 experiencing poverty and 26.2% of individuals in Census Tract 9204.01 experiencing poverty, as compared to 25.4% in Northampton County and 16.8% statewide. Household income analysis found that in both census tracts, as well as Northampton County, there are significantly more people in the bottom four income brackets when compared to the state. Analysis of the one-mile buffer area around the facility showed that the majority of households have an income below $25,000. For per capita income, the state average is $26,779, whereas the one-mile buffer area average is $18,257 and the two-mile buffer area average is $17,434. From a health perspective, out of all 100 counties in North Carolina (with 1 indicating the healthiest), Northampton County ranks in the bottom 25% for both health factors and health outcomes. Additional outreach and engagement will be conducted throughout the permitting process with interested parties, with a focus on the following recommendations:

- The list of sensitive receptors will be consulted while conducting appropriate outreach
- Known community leaders will be contacted
- Provide information to the Meherrin Tribe