

# **Bailey's Creek Subdivision Feasibility Study**



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# Executive Summary

The Bailey's Creek subdivision feasibility study focuses on the Town of Aurora's desire to build new housing to support economic development as part of the town's 14-year revitalization plan that focuses on four priorities; creating new jobs, providing adequate housing, increasing education, and training and grow basic services. The study was requested as part of a greater revitalization initiative approved by the town's leadership in April 2022. That strategy identified a lack of affordable and resilient housing for future town and township growth. The town anticipates that local businesses will require continued workforce recruitment and retention. Affordable family-unit housing is a critical shortfall on the south side of the County, particularly in Richland Township. Currently, the Town of Aurora has a large housing vacancy, mostly due to a high rate of property abandonment and a lack of investment in aging homes in the area. There is a lack of suitable housing for growth to support a local workforce that seeks family-unit affordable and resilient homes. Employees may want to live closer to their employer and increase their quality of life. A lack of newer housing in Richland Township, and particularly the Town of Aurora, exasperates the problem. The introduction of a new subdivision was proposed by the town to Nutrien, the current tract owner many years ago. The town has negotiated a multi-year option to acquire the land from Nutrien with the intent to one day develop the tract for new family-unit housing. This initial feasibility study sets the foundation for further work to be done including flood, soil, and land use planning research. This study provides initial research focused on applicable building codes and the town's steps to rezone the property for future development. The study provides a list of the next steps needing to be accomplished as well as providing some initial price range analysis focused on economic factors associated with workforce salaries for the region. Many documents; including the town of Aurora's zoning ordinance and code of ordinances; are explored. The next steps include rezoning the property, negotiating a future development strategy with Nutrien, hiring an engineering firm and geotechnical surveyor to evaluate the property, and creating a new subdivision plat that accommodates usable property. The town of Aurora should create a construction plan and select a construction company to assess the cost of realizing a new housing subdivision at Bailey's Creek. Aurora should seek investment funding for the Bailey's Creek subdivision.

# Introduction

The Aurora Leadership Council and the local government officials tasked us to create the Bailey's Creek development plan. The plan will include previously included plats created by local surveyors. The town of Aurora throughout history has had a problem dealing with stormwater flooding and storm surge within the town's municipal limits. Since the town borders South Creek and Bailey's Creek, there are many waterfront attractions for development. The Bailey's Creek Development parcel is located within the 100-year and 500-year floodplain as well as the floodway in some areas. Development with a floodway is prohibited but within a 100 or 500-year floodplain requires development to have higher standards. The Bailey's Creek development parcel will also need sewer which the current sewer system runs adjacent to the property. Stormwater drainage is also a major con-

cern on the property.

The Bailey's Creek development is a 106.57- acre parcel that Nutrien has proposed to the town as a donation for the town to develop and provide housing for workers at the Nurtrien mine. Most workers at the Nutrien mine live outside the town limits of Aurora and live in the surrounding Beaufort County area. Aspects such as yearly household income, average monthly mortgage cost, and renter/owner status will be taken into consideration during the process of creating a development plan. Contact with Nutrien will need to be made to conduct surveys on the workforce to understand their thoughts, interest, opinions, and housing desires on Bailey's creek development and their living situations. The town also wants to create waterfront property which could include boat docks and lifts which could support the town in rebuilding its de-

stroyed marina. Research will also be conducted to find out possible grant opportunities to fund the project as well as development standards and processes to start development. A step-by-step plan will need to be created to start development. A Bailey's Creek Development plan is essential for Nutrien and the town of Aurora to start development on the property. The plan should provide all the necessary information for the town of Aurora and Nutrien to start



Aurora Town Hall  
Town of Aurora, NC. (n.d.).

# Project Purpose

The purpose of the Bailey's Creek Development project is to provide the town of Aurora and Nurtrien with a next step development plan for the parcel shown. We have been working with the Aurora Leadership Council, a proactive citizen and community advocate, for the town of Aurora. The project's main goal is to provide a plan for the town of Aurora to provide much-needed housing assistance to the Nutrien workforce.

Aurora would like to retain all of the workers within the municipal limits to increase tax revenue and further increase the number of businesses within the area. The introduction of a large subdivision that would promote living within Aurora would attract many necessities to the area. The town is currently set within a food desert. For a general grocery store, the town has to travel 30-45 minutes to the south or west.

With increasing development and a large number of homes available for purchase, the town will have the population to bring in business. Aurora is a town that lacks sustainable businesses and resources.

Nutrien which would grant the town of Aurora consent to start development on Nurtrien's land. Information collected within this project includes soil, drainage, and elevation data. Maps will be created using data from each of these attributes to be introduced into the plan. With our proposed plan and with the help of Nutrien, Aurora should be able to promote homeownership within the township and increase the population and tax base. Also, this plan would allow the town to apply for much-needed grant funds to provide



Aurora Fossil Museum  
Town of Aurora, NC. (n.d.)



# Demographics/History of the Area

## Location

The town of Aurora is in the eastern part of North Carolina in southern Beaufort County. Aurora is located off the South Creek which feeds into the Pamlico River. The town is 1.03 square miles. The largest cities nearby are Washington, NC which is 22.32 miles northwest, Greenville, NC which is 38.84 miles northwest, and New Bern, NC, 30.1 miles to the southwest. NC 33 runs through the south portion of the town as seen in figure 2. Beaufort County is the 8th largest county in North Carolina with an area of 958 square miles. According to the 2020 U.S. Census, the town of Aurora only has a population of 455 people in the town limits (S0101 Aurora, 2020), with the county containing 47,160 people (S0101 Beaufort, 2020).

## History

The county was originally named Bathe County.

This name was later changed to Beaufort County in 1712. Its present name is Beaufort County coming from Henry Somerset, Duke of Beaufort, one of the English Lord's Proprietors. The early economy came from shipbuilding but declined after a fire during the Civil War. The town of Aurora was originally founded on the location of a Pomouik Indian village but was bought by Christopher Gale, a lawyer and the first Chief Justice of North Carolina. ("Town of Aurora, NC")

It was finally established as Aurora in 1880 by Reverend William Henry Cunningham. In 1964, phosphate began being mined. Texas Gulf mining company constructed a plant, eventually expanding in 1985, making the biggest phosphate mining and chemical plant in the world. In 1995 the present owner, Nutrien, own and operate the mine and chemical plant ("Town of Aurora, NC").



Aurora - Public Access Boat Ramp  
Town of Aurora, NC. (n.d.)

# Demographics/History of the Area

## Demographics

The age and gender distribution for the Town of Aurora, NC is located in Figure 1. There is an even distribution between males and females. The distribution of ages within the town has a large contrast. The largest gender is females aged 40 to 44 years old with 15.6% of the female population in this age range. The largest group of males ages 45 to 49 years old with 12.7% of the male population in this age group (S0101 Aurora, 2020).

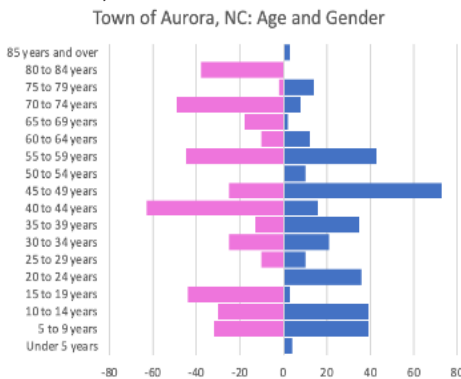


Figure 1 Age and Gender Distribution for the Town of Aurora, NC (S0101: Age and Sex)

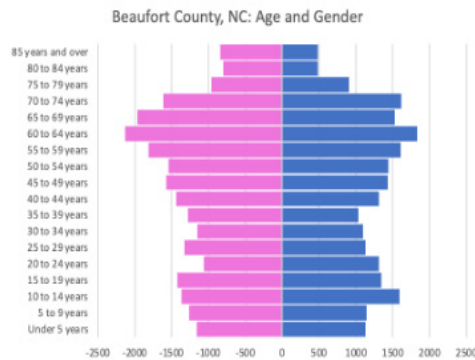


Figure 2 Age and Gender Distribution for Beaufort County, NC (S0101: Age and Sex)

Figure 2 illustrates Beaufort County's age and gender distribution. This is a relatively older population with a large portion of the population being between the ages of 50 years and over. This age range contributes 45.7% of the total population. Most of the population has chosen to retire in this area (S0101 Beaufort County, 2020).

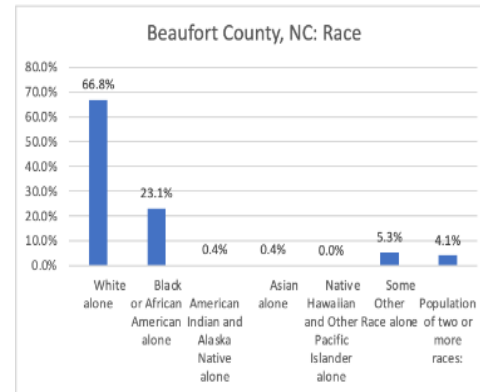
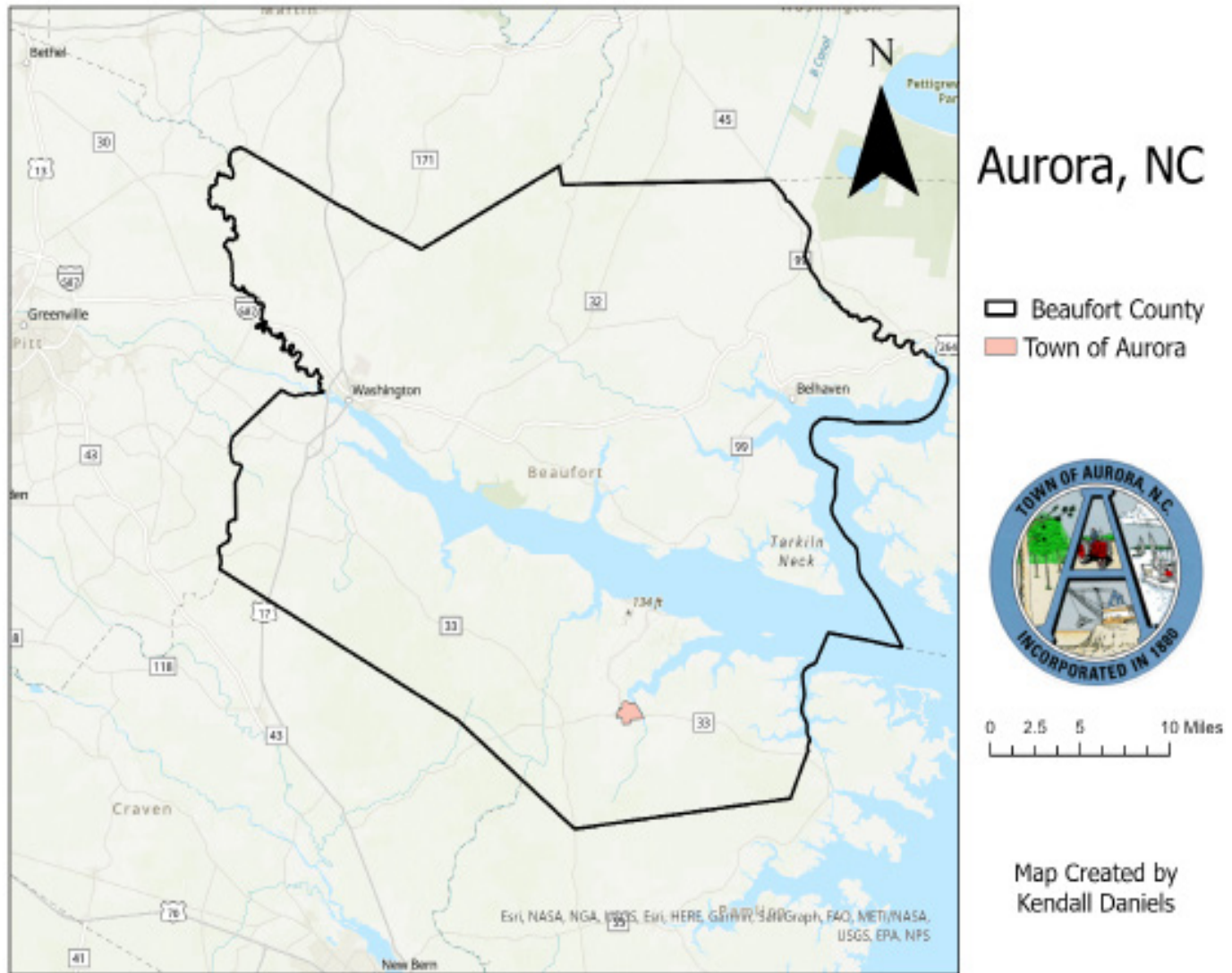


Figure 3 Race Distribution for Beaufort County, NC (P1: Race)

This graph illustrates the 2020 population breakdown by race in Beaufort County, North Carolina. As shown on the graph, the county is majority white, with 66.8% of the population. The second largest group, Black or African American, is only 23.1% of the current population. All other races make up less than 1% of the population and indicate that less diverse ethnic groups are moving to the area (P1 Beaufort County, 2020).

# Demographics/History of the Area





# Aurora Housing and Income Characteristics

Currently Aurora has a major housing issue. Currently, there are 464 housing units according to the United States(U.S.) Census Bureau. Out of the 464 units which are available only 320 are occupied or 31% are vacant (DP04: Selected Housing Characteristics). Most of the units were built during the 1970s and there have been no new housing developments since 2013, where according to the U.S. Census there were only two housing units built between 2010-2013. Excluding two units built in 2010-2013, there have only been 8 total units built since the 1990s. The average cost of rent in Aurora is \$634 a month. Some of these statistics can be derived from the lack of resources and things to do within the local community. Most of the people who come to Aurora either work for the town or the small businesses around the town. All other people who come to the town on a daily basis

work at the Nutrien phosphate mine. The vacancy rate can be due to a lack of housing within Aurora causing mine workers and those who wish to stay in Aurora to find housing elsewhere, the closest towns or cities include Grantsboro and Washington. Both are located within Beaufort county. Washington and Grantsboro are both located around 30 minutes away and have the adequate resources people need. Both have restaurants, grocery stores, and places to live and shop. Aurora needs to provide more resources to the community to create a sentiment for people to stay. Due to Aurora being within a food desert, people are drawn away from the town. If we compared the town of Aurora to other waterfront community in Eastern North Carolina, like Bath, there are far more resources and housing available to the locals. Bath has a lower vacancy rate, sitting at 25.2%, with an average income of \$52,500

(DP04: Selected Housing Characteristics).

There are three categories of household incomes. They are families, married couples, and non-family households, with household encompassing all three. The U.S. Census Bureau defines these categories as the following. A household is to be composed of one or more people who are not related by birth, marriage, or adoption. A family is defined as two or more people related by birth, marriage, or adoption and residing together. A married couple is a married couple living together without children. A non-family consists of a person living alone or the home is shared with people that are not related.

Figure 4 and 5 compare the income amounts in the 4 different household types. There are 758 total households counted in the 2020 U.S. Census for the Town of Aurora, NC with an annual median income of \$43,909.00. Households are the largest demographic, accounting for 42.2% of the total with a median income of \$38,026.

# Aurora Housing Characteristics

## Continued...

The household median income is \$5,883 less than the total average. The town of Aurora's median annual income is \$8,772.75 less than Beaufort County's average at \$52,681.25 (S1901 Aurora, 2020) (S1901 Beaufort County, 2020).

The National Low Income Housing Coalition identifies households as cost-burdened when housing and utilities cost more than 30% of the households income (Standard Affordability Measure Misrepresents Households Living in 'Shelter Poverty,' Unable to Meet Basic Needs, 2019). To not fall into the poverty category the average Aurora resident can afford a \$185,000 home.

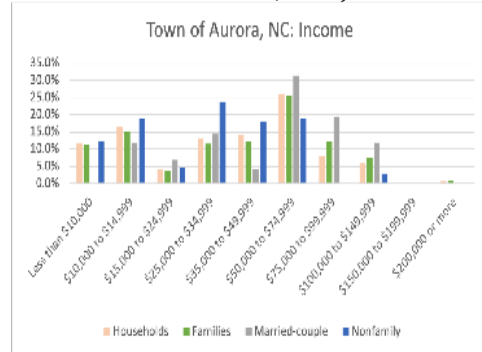


Figure 4 Household Income Breakdown for the Town of Aurora, NC (S1901: Income in the Past 12 months)

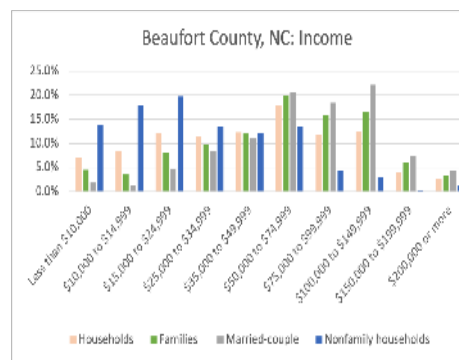


Figure 5 Household Income Breakdown for the Beaufort County, NC (S1901: Income in the Past 12 months)

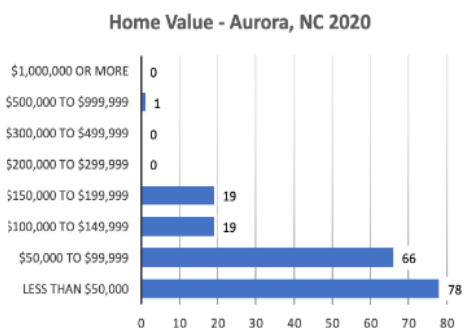


Figure 6 Appraised Home Value, Aurora, NC (DP04: Selected Housing Characteristics)

The graph above shows the appraised value of homes in Aurora, NC in 2020. The average valued price of a home in Aurora is \$79,400. Only 36% of the homes are within that price range (DP04 Aurora,

ra, 2020). This is well below the average price of a home in Beaufort County, NC with the average price being \$240,166.



Figure 7 Bedrooms per Unit, Aurora, NC (DP04 Selected Housing Characteristics)

The graph illustrates the number of bedrooms per unit in the Town of Aurora, NC. Out of the 464 units counted 279 or 60% of them have 3 or more bedrooms. This is significant in demonstrating the ability to accommodate America's average household of 2.6 people (DP04 Aurora, 2020).

# Aurora Housing Characteristics Continued...

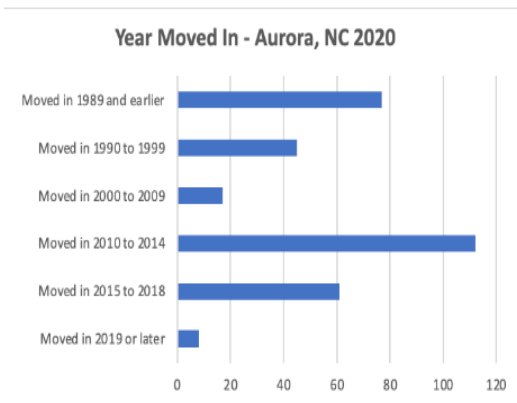


Figure 7 Year Current Occupant Moved In, Aurora, NC (DP04 Selected Housing Characteristics)

The graph illustrates the year the tenant moved into their current home, either owner or renter. A total of 112 homes were moved into from 2010 through 2014, making up 35% of the tenants in Aurora, NC. From 2015 to 2020, 69 units have been moved into contributing 21.6% of the current tenants (DP04 Aurora, 2020). You can see that the town has small jumps in the number of units being moved into periodically, occurring close to every 20 years, then quickly declining again.

## Rental Information

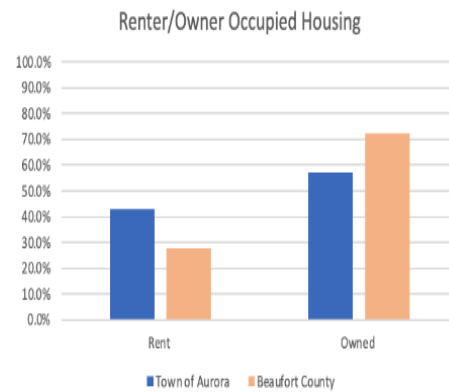


Figure 7 Number of Units Occupied by Owner/Renter (DP04 Selected Housing Characteristics)

In 2020 there were 320 units being occupied in the town of Aurora. The graph above illustrates that 57.2% of the units were being occupied by the owners. Renters occupied 41.3% of the 312 total units (DP04 Aurora, 2020). There is a near even distribution between renters and owners occupying units. This could illustrate that more families are not considering Aurora when choosing their permanent residency. When

comparing the counties distribution of owner occupied versus renter occupied, the distribution is skewed more towards owner occupied. This shows that the county is retaining its population.

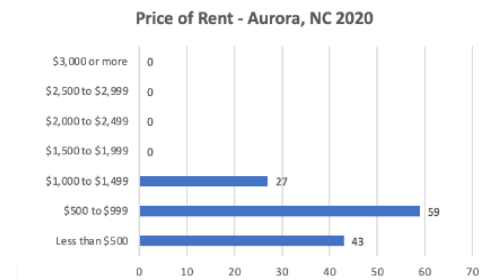


Figure 8 Price of Rent, Aurora, NC (DP04 Selected Housing Characteristics)

The average price of rent is \$634 per month. This is \$108 below the Beaufort County average of \$742 per month. In the town there are 8 tenants with no rent being paid. The rent in Aurora, NC is affordable for the area with 3 different price points being offered, less than \$500, \$500 - \$999, and \$1,000 - \$1,999 (DP04, Aurora, 2020).

# Project Area

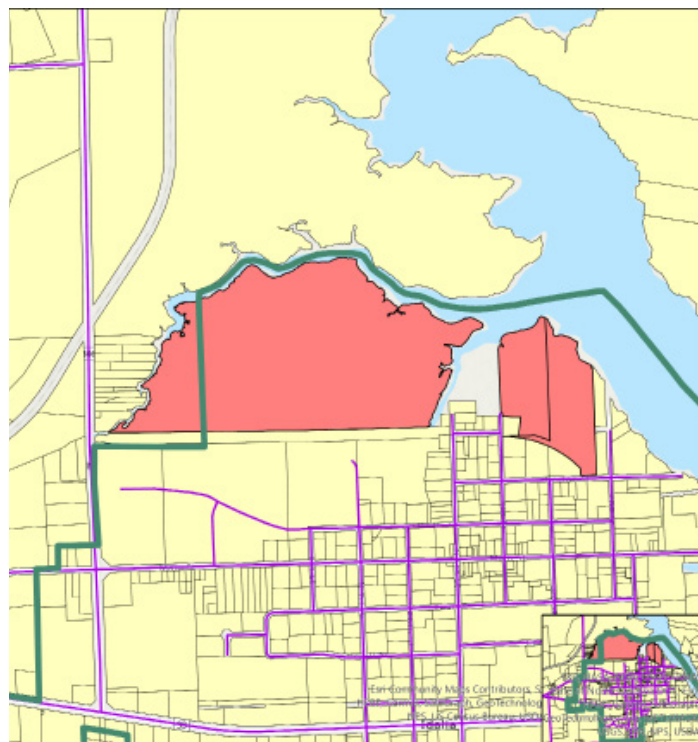
## Bailey's Creek Development

The Bailey's Creek Development project is located within the town of Aurora's town limit. It is located at 35.3094N, -76.7929W. All three parcels are 106.57 acres in size. This parcel or tract has 92 acres that could be available for development (Town of Aurora NC Strategic Plan 2022-24). According to tax data, the main parcel which would be used for development has a value of \$83,528. Parts of the parcel are located on marshland, increasing the necessary precautions for development. The soil type is altavista. Altavista is a type of soil that allows a moderately well-drained system. Most of the surface runoff is slow but it does have a moderate amount of permeability. The slopes are very low within 0 - 10% grade (Altavista Series. (n.d.)). Plants that grow in this type of soil are as follows:

loblolly, sweetgum, red maple, yellow-poplar, white oak, southern red oak, water oak, American beech, and hickory. Common understory plants include flowering dogwood, blueberry, sassafras, eastern redbud, eastern redcedar, winged elm, greenbrier, sourwood, southern bayberry (wax myrtle), inkberry (bitter gallberry), summersweet clethra, honeysuckle, and poison ivy (ALTAVISTA Series. (2007, September)



Bailey's Creek development parcel.  
Photo taken by Kendall Daniels



Bailey's Creek Development

Legend:  
— Roads  
■ Bailey's Creek Development Parcel  
■ Parcels  
— Aurora Town Limits

Scale: 0 0.05 0.1 0.2 Miles



Map Created By Kendall Daniels



# Project Area

Most of the property is covered in partially -thick hard oaks or pines from the southernmost point until 100 yards from the Bailey's Creek waterfront.

Within the 100 yards to the waterfront, there is mostly a large amount of *Phragmites australis* or the common reed and it is found up until the waterfront. The marshland is undevelopable in this area as shown above. The marsh has trees scattered within the marsh. Most of the land within this area is undevelopable unless infill is included in the project planning. Our goal is to conserve as much marsh environment as possible while also trying to accommodate for the number of housing units Aurora wants to develop.



Marsh Land adjacent to Bailey's Creek  
Photo taken by Kendall Daniels



Marshland looking towards Bailey's Creek  
Photo taken by Kendall Daniels

# Project Task, Data Collection, & Findings

## Phase 1 - Site Selection & Land Acquisition/ Survey

The Bailey's creek development is needed to help develop low-impact affordable housing for new families looking to make Aurora their home. Bailey's creek project according to the Aurora strategic plan needs to increase housing units. Phase one of their current plan includes 103 acres of land North of Aurora which is located in Aurora's town limit and along the south bank of Bailey's Creek, which includes three tracts of land. This parcel or tract has 92 acres which could be available for development. According to tax data the main parcel which would be used for development has a value of \$83,528.

Currently, the site is mostly wooded high ground with multiple drainage laterals leading to the marshland.

A large drainage lateral runs across the entirety of the property next to what was a railroad bed as seen in the figure below .



Railroad Bed  
Photo taken by Kendall Daniels



Drainage Lateral on both sides of old railroad bed.

Photo taken by Kendall Daniels



# Project Task, Data Collection, & Findings

The town has previously completed a survey of the site by local land surveyors. Below is a sketch that the local has drawn to show proposed dwellings.



Bailey's Creek Conceptual housing development  
The "Walker Plan circa 2008"

## General Plan Goal

The goal is to identify the necessary steps, which help to guide the development process for the town of Aurora's Bailey's Creek development. The plan should show development steps to begin planning, drawing, and surveying the property, which should lead to construction and development on the property. The Aurora Leadership Council has proposed using the plan to find available developers in the area.

The Bailey's Creek development project should provide affordable housing to the workforce that work at Nurtien within

Aurora's town limits.

## Economic Development

This plan should also provide the backbone for the development of single-family or multi-family units. An increase in housing units within the area should draw in many necessary businesses. Currently, there are very few businesses located in the area and the town is located within a food desert. The town does hope this development promotes a grocery store to the town further increase economic development. Once a grocery store is opened within the town, the town has a vision that more people would be willing to live within the town of Aurora. New development within the town limits would also promote cleanup and rehabilitation of their downtown.

# Project Task, Data Collection, & Findings

## Environmental Conditions

The majority of the proposed Bailey's Creek development lies in an AE flood zone with a base flood elevation of 6 feet. The flood probability for this area is high. According to the map on the next page, the area in yellow has a medium hazard risk with a 0.2% annual chance of flooding or every 500 years. Blue indicates the 100-year floodplain or a 1% flood risk per year. The base flood elevation is applicable in this area. Some flood mitigation options include floodproofing, utility elevation, structure elevation, dry floodproofing, levees, and floodwalls.

To address the flooding concerns, the homes would have to be elevated no less than 2 feet above the base flood elevation, adding up to at least 8 total feet above the ground. An increase in plant

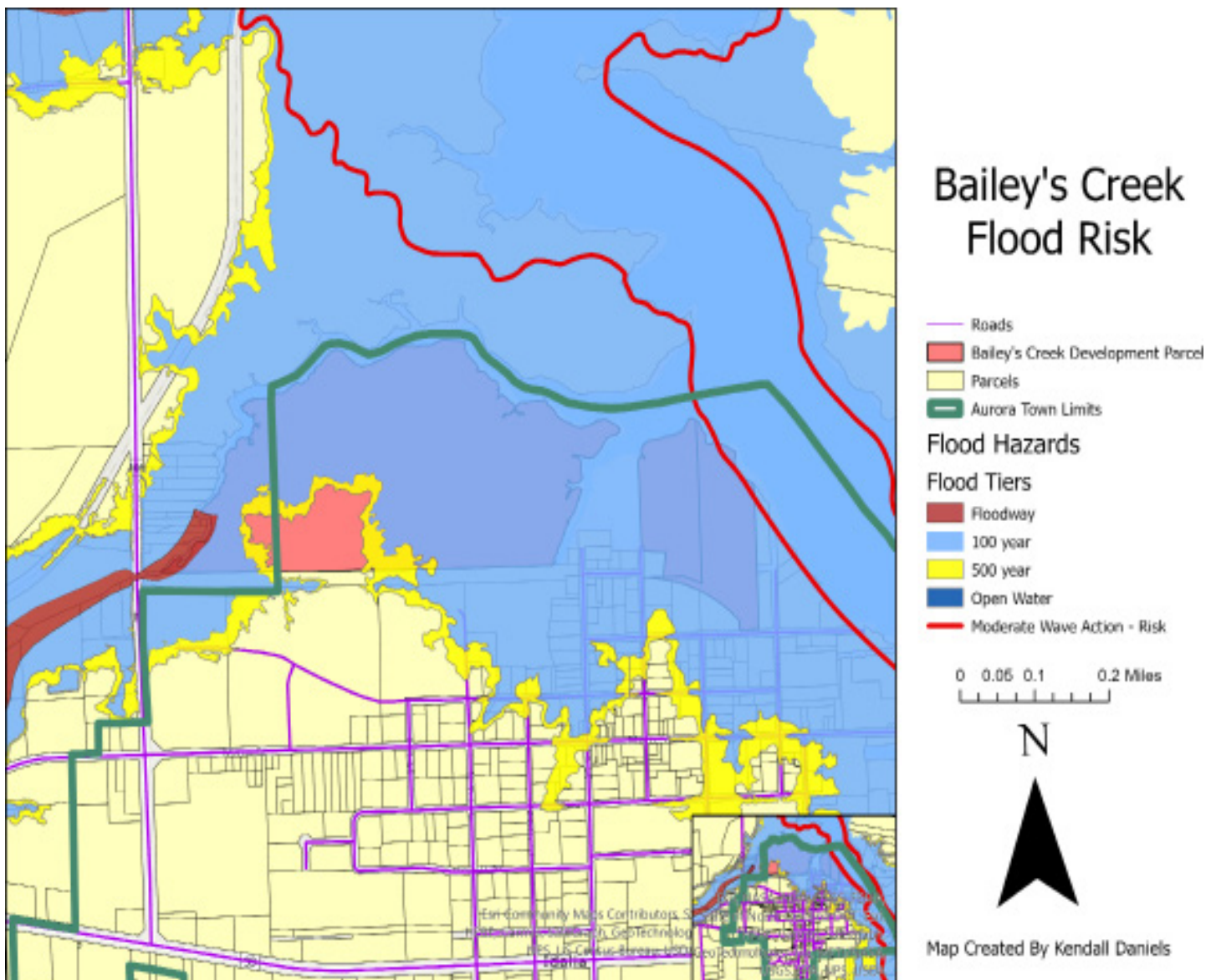
coverage, especially native plants, would increase the infiltration of rain and flood water into the ground. The use of flood barriers is recommended in order to save repair costs. Additional structure foundation may be needed as well. (Beaufort County, NC Code of Ordinances, 2014)

A land suitability analysis should be performed. "Land suitability analysis is a process for identifying land in the county that is most suitable for development. The analysis is not intended to 'rule out' any land or site from development. It is intended to provide information to local decision-makers on land that may have fewer environmental and regulatory restrictions, land where services can be provided at lower cost, or land that is most attractive given its proximity to existing development or to the water-front areas" (BC CAMA Land Use Plan, 2006).

To reduce the potential for flooding in the Bailey's Creek area, structural solutions, non-structural solutions, flood mitigation projects, and estimated sea level rise should be in consideration. Seas are rising globally leaving the low-elevation areas of coastal North Carolina vulnerable. Even by excluding flooding due to major storms and hurricanes, The National Oceanic and Atmospheric Administration (NOAA) predicts the frequency of flooding to escalate dramatically. Sea level rise will have major impacts seen as early as 2060 and certainly by the year 2100. (Ecological Effects of Sea Level Rise in North Carolina, 2012)



# Project Task, Data Collection, & Findings



Map data from FIRS Data for Beaufort County: NC  
OneMap  
Map created by Kendall Daniels

# Zoning

## Zoning Designation

Currently, the Bailey's Creek development parcel is zoned RU - Rural. It is located within the town limits. RU - Rural's definition within Aurora's Zoning Ordinance creates a district to preserve agriculture, forest management, and other low-density uses on the site. The definition also indicates that RU - Rural should also encourage the preservation of natural resources and also guard against the alteration of limited significant land resources. For a new development, the town will need to rezone the property as R1 - Residential.

The town does want to create more affordable living and promote new development. The town wants to keep the development Single-family or multi-family. R-1 - Residential zoning district establishes and preserves low to medium-density characteristics of

residential characteristics.

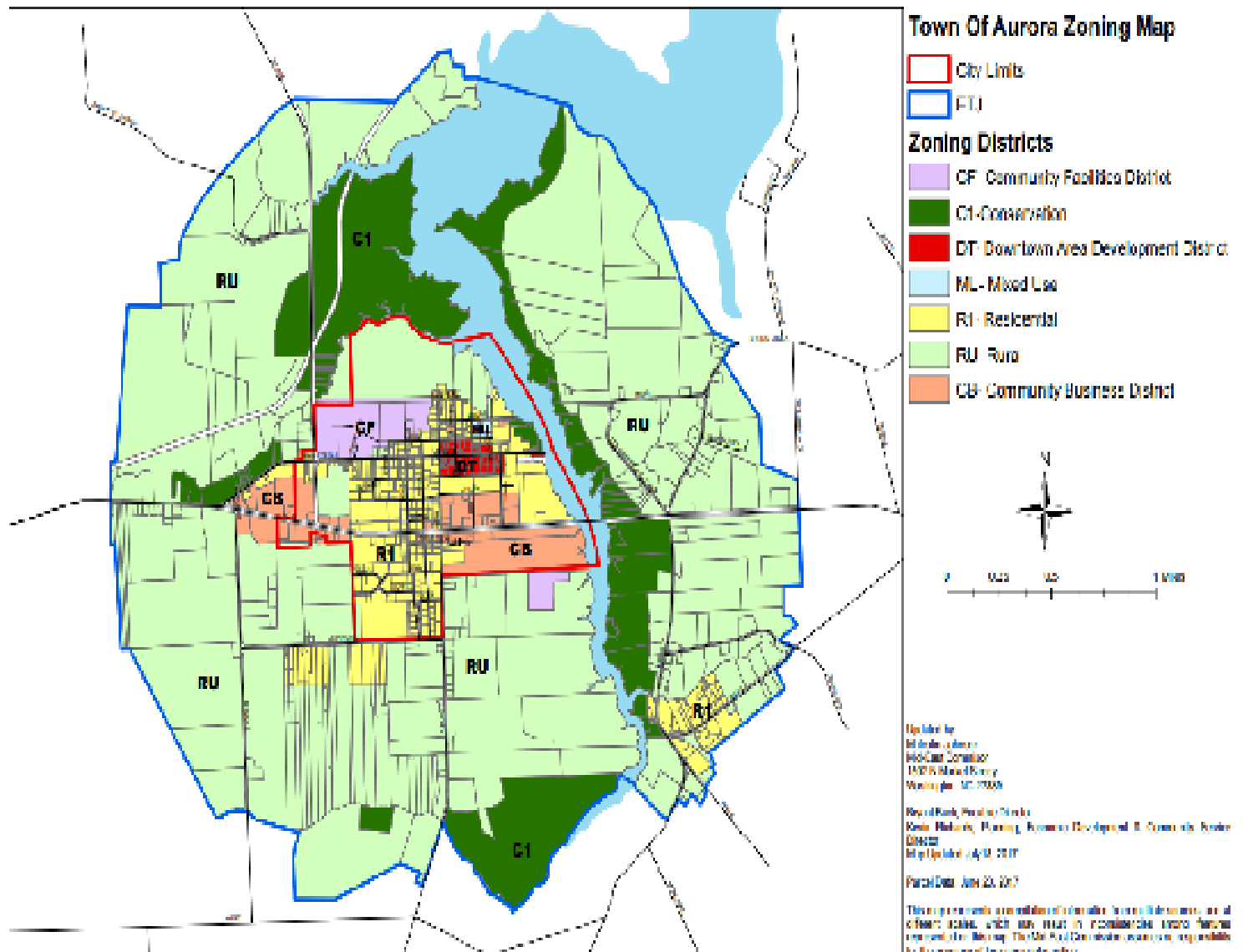
The rezoning of this parcel of land is essential to create the envisioned subdivision. Without rezoning the property, each dwelling would have to be on a minimum lot size of 20,000 square feet due to the rural zoning. However, if the property is rezoned to residential the minimum lot size is reduced to 6,000 square feet. This is essential to create a more dense area meaning that more homes can fit on the property.

The rezoning process would begin at the local planning office with a rezoning request. The rezoning of this property from Rural to Residential would increase the amount of tax revenue for the city. Sewer and water lines would need to be extended but are accessible in this area and provide services to the site. This parcel would serve as homes for Nutrien employees, bringing more people to the

town of Aurora.

Overall, the rezoning request has a high probability of being approved according to our sponsor, the Aurora Leadership Council, much of the town's local officials see the need for the Bailey's Creek development to create available housing units within the town's limits. The town needs to create more housing units to increase its tax base and incentivize more local businesses to open to create local opportunities. The Bailey's Creek development is pushed by Aurora's mayors and councilmen to increase people within the area to draw in a grocery store and other necessities.

# Zoning



Town of Aurora Zoning Map  
Auroralife.us

# Rezoning

## Rezoning Process

Below is a permitted use table that indicates what developments are permitted in RU and R-1 zoning districts:

<i>P=Permitted</i>						
<i>S=Permitted only by special permit</i>						
Service stations, auto		P	P	P		
Public buildings		P		P		
Signs constructed and placed in accordance with the ordinances of the town.		P	P		P	
Taxicab and bus terminals		P				
Theaters		P		P		
Wholesale and storage warehouses, except salvage for junk and iron and for the purpose of salvage			P			
Undertaking establishments, funeral homes, mortuaries		P	P	P		
<b>RESIDENTIAL:</b>						
Accessory buildings, including private garages	P	P			P	
Agricultural or horticultural use					P	
Boardinghouse, guesthouse, tourist home		P	P			
Churches, cemeteries	P	P	P	P		
Day care centers and nursery schools	P	P	P	P		
Hospitals except animal hospitals, public or private medical and dental clinics, nursing homes		P		P		
Libraries		P				
Manufactured homes, house trailers					P	
Modular homes	P	P		P	P	
Multifamily dwellings	S	S	S			
Municipally owned or operated parks, playgrounds, and community centers	P	P		P	P	
Private clubs, fraternal or similar organizations not open to general public			P			
Public and private educational institutions				P		
Single-family dwellings	P	P		P	P	
Two-family dwellings	P	P	P		P	

Zoning Ordinance.pdf. (n.d.)



# Rezoning

Under R-1 residential in the permitted use table, single-family and multi-family units are permitted to be developed. Additional regulations are set in place for the R-1 residential zoning district. Under section, 38-202, Aurora includes a table with the area, height, and placement regulations. The table is shown below:

Zoning District	Minimum Lot in Sq. Feet	Required Set back Line Minimum Dimensions in Feet*			Minimum Building Height in Feet	Maximum Building Height in Stories
		Front Yard	Side Yard	Total both Side Yards		
R-1	6,000	25	10 each side	20	25	2½
DT	5,000	N/A	N/A	N/A	40	4
CB	6,000	50	N/A	N/A	30	3
CF	6,000	25	10	20	30	3
RU	20,000	25	20	40	30	3
C-1	N/A	N/A	N/A	N/A	N/A	N/A

Zoning Ordinance.pdf. (n.d.)

R-1 residential zoning districts require that the minimum lot size be 6,000 square feet. The front yard must be setback 25 feet. The side yard must be setback 10 feet each. Maximum building height must stay under 25 feet or 2 ½ stories.

## Zoning Amendment

Within the “Zoning Ordinance”, section 38-101 allows amending or rezoning of properties due to changing conditions of the community to reasonably promote and increase the public health, safety, and general welfare of the community(Zoning Ordinance.pdf. (n.d.)).

Amendments or rezonings can only be initiated by:

The Board of Commissioners (via motion)

The Planning Board

Petition

Section 38-107 - Procedure for Amendment Petitions

Application Submittal - All parties and petitions to be submitted must be in writing, signed, and filed (in triplicate) with the town clerk to be presented to the board of commissioners.

Contents of Petition

Petitioner’s name, address, and interests of all persons that have legal or equitable interest in the land. If the amendment requires a change in the zoning map - a fully dimensioned map will need to be created containing the following:  
Identification of land affected by the proposed amendment  
Legal description of the land  
resent zoning & proposed zoning. Zoning classification of all adjacent land zoning districts. All public right of way and easements and intersecting the land under consideration

4. If the proposed submittal includes a change in the zoning map, the names and addresses of the owners of all the land within the area shall

# Rezoning

be included in the proposed amendment if needed.

5. Changed or changing conditions, if applicable, in the area or town limits, deem necessary to the promotion of the public health, safety, and general welfare of the public. After rezoning is applied the town board of commissioners must wait 30 days or until the planning board makes recommendations. The planning board's duty is to conduct a study of the petition with details and to recommend an action to approve or deny the amendment or rezoning as they seem fit to the planning board((Zoning Ordinance.pdf. (n.d.)).

After 30 days or the planning board's report makes such recommendations require. A build hearing and notice are required under "Zoning Ordinance" section 38-105. The public meeting shall be held by the board of Commissioners before approval or denial of the proposed amendment. Notice of

the public hearing shall be given by publishing the notice in a public newspaper of the county the amendment is proposed. The time, place, and topic of the meeting must be included in the newspaper notice. The newspaper notice should appear for two consecutive weeks.

Change in zoning or zoning amendments shall be posted for at least 15 days prior to the public hearing. All posted notices shall be provided by the zoning administrator and should include:

1. Present Zoning Classification
2. Proposed Zoning Classification
3. Time and place of the public hearing
4. The location where more information is available. (Zoning Ordinance.pdf. (n.d.))

To challenge or protest the petition - 20% of owners of adjacent lots or lots within 100 feet of the proposed zoning are needed. If 20% is achieved the amendment will need to achieve a vote of  $\frac{3}{4}$  of the board of commissioners (Zoning Ordinance.pdf. (n.d.)).



Railroad bed different location  
Photo taken by Kendall Daniels

# Minimum Housing Code

## Flood Code

New construction must have the lowest floor, including the basement, elevated no lower than 2 feet above the base flood elevation of 6 feet. If solid foundation perimeter walls are used there must be openings large enough to sufficiently facilitate the unimpeded movements of floodwaters. All foundation and other exterior walls below the base flood elevation must not include finished living space but instead be designed to allow for the entry and exit of floodwaters to equalize hydrostatic flood forces. The Town of Aurora's Code of Ordinances emphasizes that all subdivision proposals need to minimize flood damage, have access to public utilities and facilities including sewer, gas, electrical, and water systems, and be constructed in a way to minimize flood damage, adequate drainage, and base flood elevation data.

A development permit is required to be in accordance with the Town of Aurora's Code of Ordinances before development can begin. This permit can be applied for through the local administrator. The following information is required: All new construction must be anchored, be constructed out of flood-resistant material, and constructed using methods and practices to minimize flood damage, all utilities and services shall be designed and/or located to prevent water from entering and accumulating within them, and all water and sewer systems must be designed to minimize or eliminate the infiltration of floodwaters into the system.

There are several other requirements for areas of special flood general hazards but they do not apply to this development such as requirements regarding manufactured homes, on-site waste disposal systems, and alterations or reconstruction of previously developed properties.



Drainage on Bailey's Creek property  
Photo taken by Kendall Daniels



# Development

Out of the 3,947,070 homes located in the state of North Carolina, the average home price is \$215,000. A majority of the dwellings, 36.2%, are considered affordable ranging from \$133,492 to \$267,000. The second most popular homes are high-end and priced above \$267,000. The third most popular homes are low-end, priced from \$66,760 to \$133,491. In North Carolina, 63.5% of people own their homes, 36.5% of people rent their homes, and the remaining 14.3% are in possession of vacant land. Almost half of the homes, 48.9%, were built from 1970 to 1999, 26.7% were built in 2000 or later, and 19.3% were built from 1940 to 1969. 65.1% of the homes are single-family making it the most popular type of residential dwelling in North Carolina. The most popular size of single-family dwellings are three-bedroom homes at 47.3%, followed by two-bedroom homes at 25.1%, and four-bedroom homes at

15.4%. Overall, the state of North Carolina has an excellent market for affordable, single-family three-bedroom homes. (admin., 2022)

There are generally four standards for consideration in new home construction in the building industry. The four standards of single-family homes are minimum, average, good, and best. The standards refer to the quality of the home and the price of development changes with the different standards. The ideal type of home would be the best standard single-family home. For these homes, in North Carolina, the development cost averages \$152.30 per square foot. In an email to our course instructor, Michael Dail, the Director of Planning for Washington, NC indicated that the price of new construction ranges from \$160 to \$175. While, the smaller the homes, the larger the average cost per square foot. Medium-sized homes, such as homes with 2,200 square

feet, are closer to the average building cost of \$152.30 per square foot totaling \$335,060. The new construction prices of a 2,200-square-foot home can range from \$335,060 to \$385,000, which is \$152.30 to \$175 per square foot. These prices can be mitigated by using one builder throughout the whole subdivision. With the minimum lot size of the residential zoning district in the Town of Aurora is 6,000 square feet, having a 2,000-square-foot home would mean that two-thirds of the lot would be empty. This leaves two options for reducing the building cost of the homes. The first is reducing the square footage of homes. Reducing the square footage of the homes from 2,200 to 1,500 would reduce the building price from an average of \$360,030 to \$245,475, based on \$163.65 per square foot. (admin., 2022)

The second option to reduce the building cost is by reducing the standard of



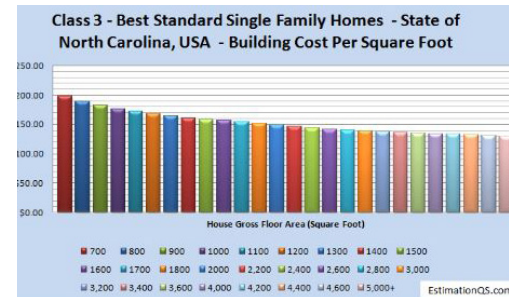
# Development

the homes. By reducing the standard of a single home from best to good, the price of construction would reduce by \$88,572. The average cost of good standard single-family homes per square foot is \$112.04, \$90.87 for average standard homes, and \$71.70 for minimum standard homes. In other words, the price for building a 2,200-square-foot home ranges from \$157,740 to \$335,060 based solely on the standard of the home being built. (admin., 2022)

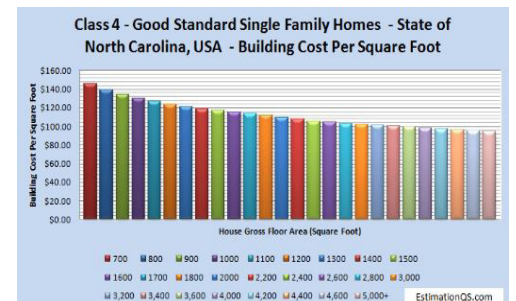
A preliminary and final subdivision plat will be required and at this time floodplain impacts should be determined along with buildable lots and the required Base Flood Elevation (BFE). Once the BFE has been determined for each lot, all habitable areas including HVAC equipment must be elevated above the BFE. As a result, home construction costs could increase as a result of elevation requirements for lots located within the 100- year flood plain.

Data from sourcing research indicate that raising a house might range from a low cost of \$10,000 to \$80,000 based on several factors. A more detailed determination can be made once a preliminary and final plat for the subdivision is completed by a design professional.

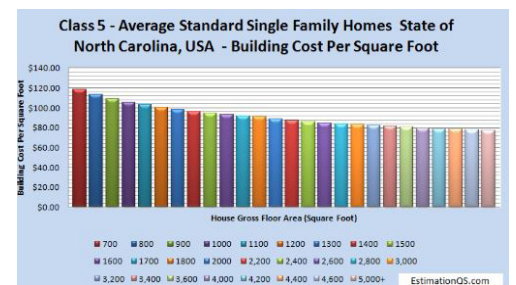
Designs for complying with the listed requirements must be certified by a professional engineer or architect or meet the minimum criteria. The minimum criteria include providing no less than two openings having a total net area of at least one square inch per every square foot of enclosed are subject to flooding, the bottom of all openings must be no higher than one foot above grade, and opening may be equipped with screens, louvers, valves or other coverings or devices that enable the automatic flow of floodwaters. (Aurora Code of Ordinances, 2018)



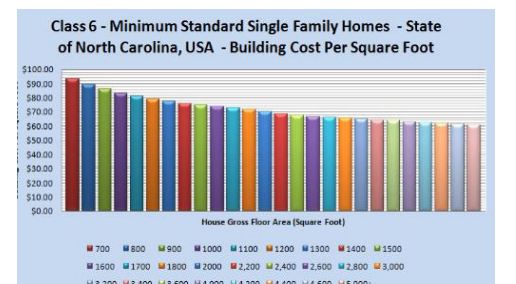
admin. (2022, April 19)



admin. (2022, April 19)



admin. (2022, April 19)



admin. (2022, April 19)

# Next Steps

1. Determine with Nutrien the development model to be used to develop the property.

2. Hire an Engineering and Surveying Design Professional to develop a schematic design plan for the subdivision after the completion of geotechnical surveys. Here is a list of available firms:

Engineering Firms:

1. Piedmont Service Group  
(252) 355-5051

4640 North Creek Drive,  
Greenville, NC, 27834

2. Rivers & Associates  
(252) 685-6095

107 E 2nd Street, Greenville,  
NC, 27858

3. RPA Engineering  
(252) 321-6027

102 Regency Blvd Suite A1,  
Greenville, NC, 27834

4. Sam Pollard and Son  
(252) 752-3661

1523 Quality Lane, Greenville,  
NC, 27834

5. Spruill & Associates  
(252) 758-3746

2747 E 10th Street, Greenville,  
NC, 27858

6. The East Group

(252) 685-6095

324 Evans Street, Greenville,  
NC, 27834

Land Surveyors:

1. Gaskins Land Surveying Pa  
(252) 244-0599

8162 Main St, Vanceboro, NC,  
28586

2. James L. Edwards Land  
Surveying

(252) 588-1779

362 Second Street, Ayden, NC,  
28513

3. Parkers & Associates Land  
Surveying

(252) 355-3055

1645 E Arlington Blvd Ste D,  
Greenville, NC, 27858

4. Richardson Hood L Regis-  
tered Land Surveyor & Engi-  
neer

(252) 362-6332

110 W 2nd St, Washington,  
NC, 27889

5. Spruill & Associates

(252) 685-6095

2747 E 10th St, Greenville,  
NC, 27858

3. Develop a construction plan  
and estimate.

4. Identify funding for the  
project, and identify potential  
funding resources necessary  
to develop the infrastructure.  
Potential funding sources  
include:

1. USDA Rural Development:  
Special Evaluation Assistance  
for Rural Communities and  
Households (SEARCH)

2. Business and Industry  
Guaranteed Loan

3. Water and Waste Disposal  
Revolving Fund

4. Economic Development  
Administration, Department  
of Commerce:

Economic Adjustment  
NRWA Revolving Loan

5. Rural Community Assis-  
tance Partnership (RCAP):  
SERCAP Loan Fund Program

6. CoBank:

# Next Steps

Rural Water and Wastewater Lending

7. Live Oak Bank:  
Water and Environmental Programs

8. NC Department of Agriculture and Consumer Services,  
Division of Soil and Water Conservation:  
Community Conservation Assistance Program

9. NC Department of Commerce Rural Economic Division:  
Community Block Development Grants, Economic Development Program  
Economic Infrastructure Program  
Industrial Development Fund  
Utility Account

5. Identify locations that can support amenities and new populations such as grocery stores, convenience stores, gas stations, school improvements, daycares, restaurants,

and other necessary amenities. Amendments to the Future Land Use Plan and Comprehensive Plan should support the addition of these amenities.



Bailey's Creek Development parcel next to HWY  
306

Photo taken by Kendall Daniels

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