

**Market and Fiscal Impacts Analyses**  
**Accokeek Furnace Townhomes**  
**Stafford County, Virginia**

**Prepared for:**

**Mr. Scott Gookin**  
**Brookfield Washington, LLC**

**October, 2017**

**S. Patz and Associates, Inc.**  
**46175 Westlake Drive, Suite 400**  
**Potomac Falls, Virginia 20165**



■ S. PATZ & ASSOCIATES, INC ■  
■ REAL ESTATE CONSULTANTS ■

October 31, 2017

Mr. Scott Gookin  
Brookfield Washington, LLC  
3201 Jermantown Road  
Suite 150  
Fairfax, Virginia 22030

Dear Mr. Gookin:

This will submit our Fiscal Impacts Analysis (FIA) for the proposed 350-unit Accokeek Furnace townhome subdivision that is planned for development in 2018 and 2019 on a large site just south of the Colonial Forge mixed-use development. Aside from a very positive FIA, the attached study shows a market ready for new townhome development.

Based on data provided by County officials, and the current FY 2018 Budget for Stafford County, the net fiscal benefit from the subject townhome proposal, for certain public facilities, is almost \$281,000 annually, after build out, and shown in summary form below.

<u><b>Total Fiscal Impacts</b></u>	<u><b>On-site</b></u>	<u><b>Off-site</b></u>	<u><b>Total</b></u>
Total Tax Revenue	\$1,325,690	\$768,810	\$2,094,500
Tax-supportable Costs	<u>-\$1,553,020</u>	<u>-\$260,580</u>	<u>-\$1,813,600</u>
Net Fiscal Benefit	-\$227,330	\$508,230	\$280,900

The detailed financial data that supports our findings and conclusions are presented in the attached report. Please call if additional data or clarification are needed.

Sincerely,

Stuart M. Patz  
President

## **Introduction**

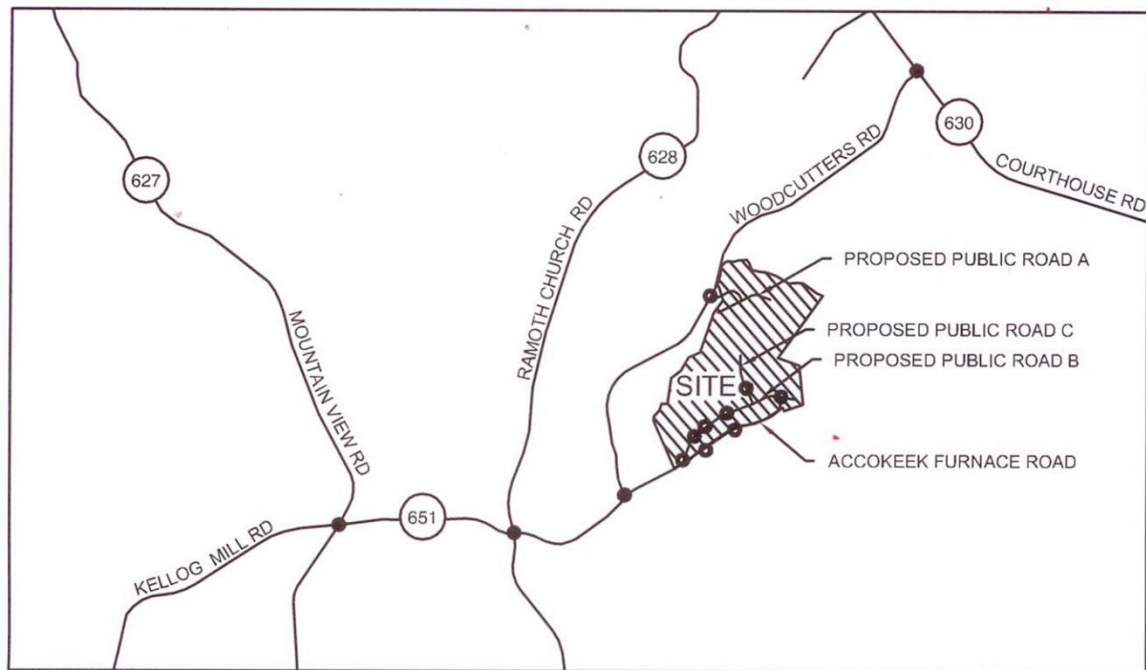
Following is the market study and resulting Fiscal Impacts Analysis (FIA) for the proposed development of 350 townhomes on Accokeek Furnace Road, with development expected to start in 2018/19 for 2020 home delivery. The report includes an overview market study to evaluate the development proposal, in terms of market support for 350 townhomes and the proposed sales price for two types of townhomes to be built on site.

The first subsection describes the development site and its setting nearby the Route 630 corridor in Stafford County. This is followed by a summary market analysis for new townhome sales at the price range proposed. The third subsection is the Fiscal Impacts Analysis that shows the net tax benefits that will accrue to the County at build out.

## **Development Proposal**

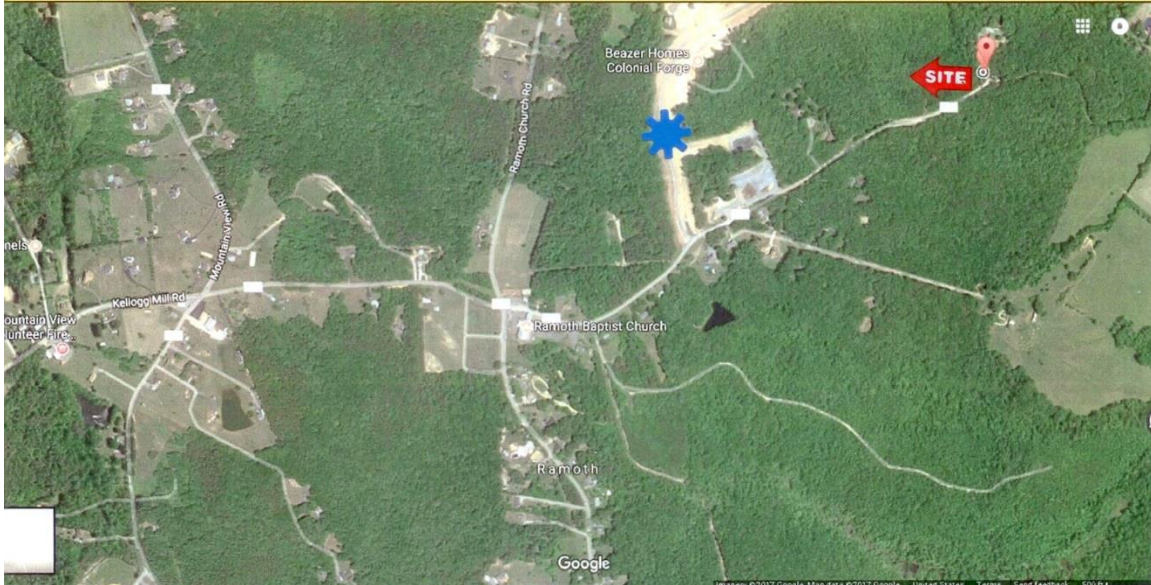
The site is located at the end of Accokeek Furnace Road near the intersection of Kellogg Mill Road and Ramoth Church Road in Stafford County. Accokeek Furnace Road extends northeast from Kellogg Mill Road and Kellogg Mill Road intersects with Woodcutters Road, as it extends south from Courthouse Road and ends at Kellogg Mill Road/ Accokeek Furnace Road. Map A, prepared by the traffic consultant, Kittelson and Associates, shows the site location and the irregular shape of the development site.

Primary site access is from Courthouse Road west and south on Woodcutters Road as it runs south through the Colonial Forge community and ends at Accokeek Furnace Road; and east along Accokeek Furnace Road. Woodcutters Road is a new four-lane roadway that serves the large Colonial Forge community and will be the primary access road for the new townhomes.



**Map A - Site Setting**

The aerial to follow shows a broader view of the immediate area. Woodcutters Road is not complete in the aerial; it is shown by a “star”. The site is fully wooded and served by a two-lane gravel/dirt road. (see photos.) Kellogg Mill Road at this location is also a dirt road.

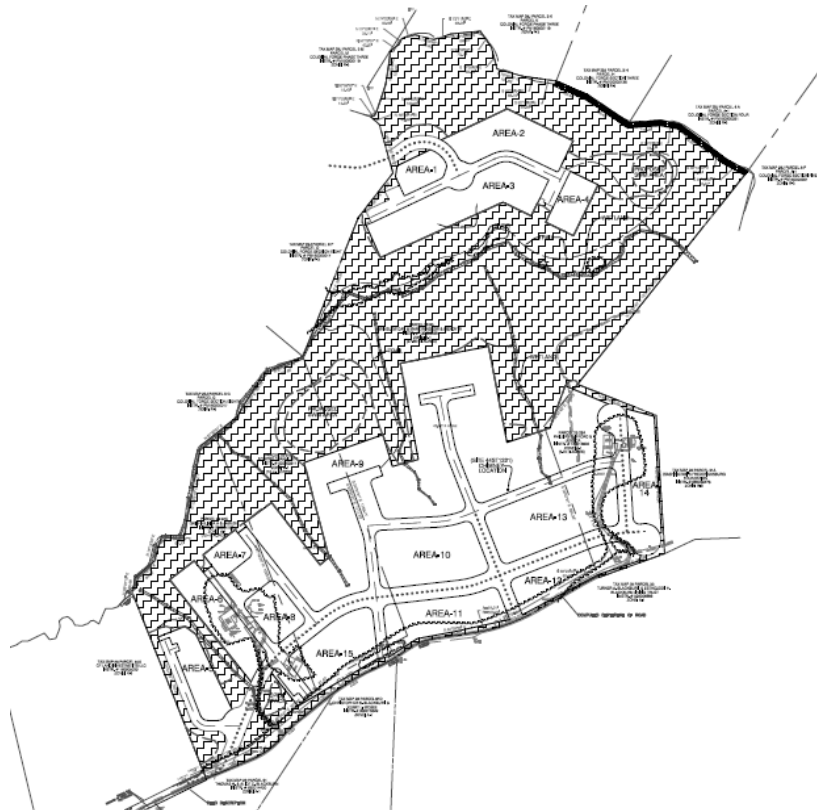


### **Aerial of Accokeek Furnace Road Site and Setting**

Following are photos of the study site. The first photo shows Accokeek Furnace Road at the entrance to the property. The next two photos are interior views of the property. The study site is 73.94 acres in size and is currently zoned A-1 and is being planned for rezoning to R-3 to allow for the development of 350 townhomes. Public water and sewer service is close by. Kellogg Mill Road and Accokeek Furnace Road will be fully upgraded to serve the new homes and new public roads will be built within the study property.

The site plan for the site is shown next. A new parallel road will be built within the subdivision with cul-de-sacs running north and south throughout the property where the new homes are to be built. The current gravel road that serves the site will no longer remain and a new four-lane road will be built along the south border of the property.





**Proposed General Development Plan**

The property has steep slopes in several locations and nearly half of the total 74± acres will be set aside for open space and will remain fully wooded. A large SWM Pond is shown on the north side of the property.

All of the units will be attached single family homes. The GDP map shows that 175 homes are to be three-story with 20-foot widths. An equal number of homes are also three-story, but wider at 22-feet. The following chart shows the proposed sizes and expected total sales price range for the proposed homes. Unit renderings of the two home model types are shown after the chart. These are garage units with brick and hardi-board exteriors.

<b><u>Characteristics of Proposed Townhomes, Accokeek Furnace Road Subdivision</u></b>				
	<b><u>Model Type</u></b>	<b><u>No. of Units</u></b>	<b><u>Sales Price 1/</u></b>	<b><u>Home Size</u></b>
"295"	22-Foot	175	\$360,000	1,500 2/
Beckham	20-Foot	175	\$310,000	1,250 3/
Total		350		
Notes: 1/ End price with upgrades.				
2/ Plus two-car garage with an unfinished area; three-bedroom with 2.5 baths.				
3/ Plus one-car garage and unfinished area; three-bedroom with 2.0 baths.				



295 Model Rendering



Beckham Model Rendering





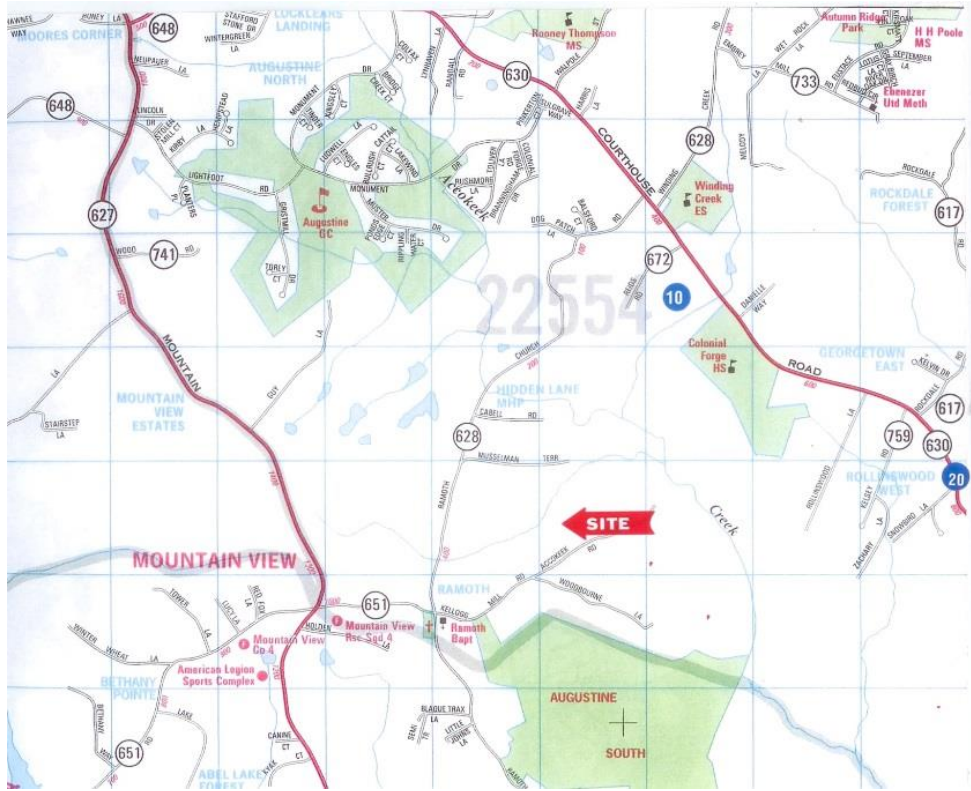
### **Site Setting**

Map B shows the site setting of the study property and its relatively close proximity to Courthouse Road (SR 630). Number 10 on the map is the location of the large Colonial Forge planned community. The development is near build-out with only two townhomes unsold, plus few available single-family lots. Colonial Forge was one of the first subdivisions built in Stafford County after the recession of the late-2000's.

On the north side of Courthouse Road, across from Colonial Forge, is an active single family community. Two other active subdivisions are located at the west end of Courthouse Road at the intersection of Shelton Shop Road.

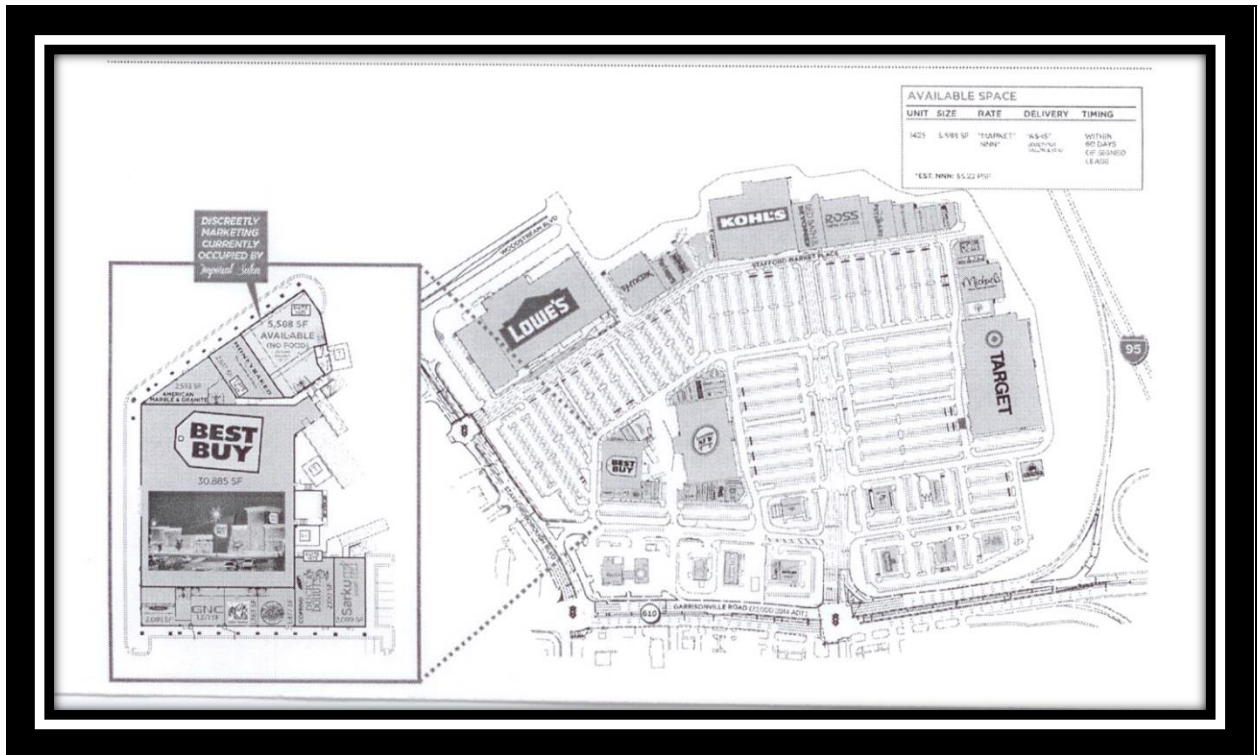
Number 20 is the (near) location of the large Embrey Mill planned community that is located just off of Route 630 and just west of I-95. It is the largest recently built community in the County, with two active townhome communities.

The large Augustine golf course community, west of Colonial Forge, was built prior to the late-2000's. The homes there are surrounded by a golf course, this is a prestigious community in Stafford County and a catalyst for current developments along Courthouse Road.



**Map B - Site Setting**

The three schools that serve this area, and will serve the new students at the planned townhomes, are nearby – Winding Creek ES, Rodney Thompson MS and Colonial Forge HS. Nearby, at the intersection of I-95 and Route 610, is the large Stafford Marketplace with Target, Lowes, Kohls, Best Buy, etc. This interchange has a grocery store and other convenience retail.



**Stafford Marketplace**

### **Overview Townhomes Market Analysis**

At this time, there are three communities with active new townhome sales and one with duplex homes. Embrey Mill, as noted above, has two homebuilders building townhomes – Drees and Miller & Smith. Ryan and Lennar developed townhomes here and both of these sections are now built out. The two active communities in Embrey Mill are small, but will add new phases, as needed. Since opening in 2013, approximately 180 townhomes have been built and sold in Embrey Mill.

Rappahannock Landing is a more modest subdivision compared with Embrey Mill and Colonial Forge, as it is located in an older section of the County along the U.S. Route 17 corridor between I-95 and Falmouth. Both Ryan and Lennar have a sizable number of lots in Rappahannock Landing.

Colonial Forge had 240 townhome lots, with only two homes remaining for sale. Home builders in the attractive Colonial Forge community sold 240± townhomes in five

years, an annual average rate of 50± homes. Drees is still building townhomes at this community.

K. Hovnanian has a mixed-use development, Villas at Wellspring, which includes 84 duplex homes, and with single family detached homes.

Of note, once Drees is sold out at Colonial Forge, only two home builders (at Embrey Mill) will have well sited townhomes available for sale. A “rough” estimate is that the 200 townhomes unsold at these communities represents a 2.5 to 3.0 years supply.

<b>Table 1 <u>Characteristics of Active Townhome Communities,</u></b> <b><u>Stafford County, October, 2017</u></b>			
	<b><u>Date</u></b> <b><u>Started</u></b>	<b><u>Total</u></b> <b><u>Homes 1/</u></b>	<b><u>Homes Sold</u></b> <b><u>to Date</u></b>
<b><u>Embrey Mill</u></b>			
Drees	6/17	24	10
Miller & Smith	3/17	45	37
<b><u>Villas at Wellspring</u></b>			
(K. Hovnanian)	3/17	84	32
<b><u>Rappahannock Landing</u></b>			
Ryan	2015	150	96
Lennar	2016	108	50±
<b><u>Colonial Forge</u></b>			
(Drees)	2013	<u>100</u>	<u>98</u>
Total		511	323
Notes: 1/ Current phases			
Source: Field Survey by SPA			

Photos of these homes follow. All of the active (and recently built) new townhomes are three-story garage units, except the duplex units at Wellspring.



**Drees – Embrey Mill**



**Miller & Smith – Embrey Mill**



**Ryan -Rappahannock Landing**



**Villas at Wellspring Hills**





**Drees - Colonial Forge**



**Ryan - Rappahannock Landing**

Data in Table 2 show the base sale prices at active townhome subdivisions. The average price is \$315,500, but that average is low, as it includes the Rappahannock Landing homes. Compared with the nearby homes at Colonial Forge, the projected sales price for new homes at Accokeek Furnace Road are at or below market.

**Table 2 Base Sales Price of Townhomes at Active Subdivisions, Stafford County, October, 2017**

	<b><u>Base Sales Price Range</u></b>
Drees-Embrey Mill	\$330,000-\$350,000
Miller & Smith Embrey Mill	\$315,000-\$360,000
Villas at Wellspring	\$320,000+
Ryan – Rappahannock Landing	\$225,000-\$285,000
Lennar– Rappahannock Landing	\$240,000-\$275,000
Drees – Colonial Forge	\$380,000-\$390,000 1/
Average	\$315,500
<b>Brookfield Homes</b>	<b>\$310,000-\$360,000</b>
Note: 1/ Upgraded model for final two homes Source: Field Survey by SPA	

### **Summary**

The current active townhome market in Stafford County has limited available inventory. Townhomes are essentially sold out at Colonial Forge. The two active townhome developments in Embrey Mill are being built in phases with limited lots purchased per phase. However, there will be more townhomes built at Embrey Mill annually.

Rappahannock Landing still has 100 lots at the current sections under development, but these are not directly competitive with new homes at sites along the Route 630 corridor.

Embrey Mill will have a continuous inventory of new townhome lots to develop until build out. Rappahannock Landing will also have lots for future development. Another Route 630 corridor property will likely add towns in time with over 200 new homes planned. With the level of growth within Stafford County, should support the current known active and planned homes.

### **Fiscal and Economic Impact Analyses**

This section of the study analyzes the tax revenues to be generated by the new 350 townhomes and compares those to new costs to serve the new residents. It is a Fiscal Impacts Analysis (FIA).

The fiscal and economic impacts for the Accokeek Furnace proposed townhome subdivision is treated in two ways: first, those impacts which occur directly from activities on-site at the study property; and, second, those impacts which occur off-site due to the multiplier, spin-off or ripple effect of residents' expenditures. The off-site impacts will be explained further on in this report; the present section deals with the on-site impacts. These include taxes generated by the development on-site to accrue to Stafford County, such as the real property and personal property taxes for the development.

The fiscal impact analysis also projects the public service and facility costs to be incurred by Stafford County by development on-site and for off-site spin-off effects. The results of the fiscal impact analysis will be to compare the tax revenues generated by the property with the tax-supported costs incurred by the County to determine the net fiscal impacts in terms of a revenue surplus or deficit over costs. This is done for both on-site and off-site impacts. Total annual impacts for the property are projected at complete buildout of this phase of the project. Results are given in constant year 2017 dollars, rounded to the nearest ten dollars.

### **Summary of Fiscal Impacts**

The following chart summarizes the on-site and off-site (spin-off) effects that will accrue to Stafford County once the Accokeek property has been fully built out and stabilized occupancies have been achieved. The chart shows a net revenue surplus of \$280,900. On site, there is a deficit of \$227,300, or about 17 percent, due to the cost of

public education, and off-site, there is a revenue surplus of \$508,200 due to off-site spin-off effects. The off-site surplus is large because the off-site impacts do not feature education costs. Net fiscal impacts on- and off-site will be a revenue surplus of \$280,900. The remainder of this report will give the derivation of these figures.

	<u>On Site Impacts</u>	<u>Off-site Impacts</u>	<u>Total Impacts</u>
Total Tax Revenues	\$1,325,690	\$768,810	\$2,094,500
Less: Tax-supported Costs	<u>-\$1,553,020</u>	<u>-\$260,580</u>	<u>-\$1,813,600</u>
Net Fiscal Benefit	-\$227,330	\$508,230	\$280,900

### **On-site Impacts: Tax Revenues**

The revenues to be considered in this report are taxes collected by Stafford County for General Fund use. These include the property taxes, utility tax, and other smaller taxes. The paragraphs to follow document the derivation of the tax amounts for the on-site development at the property.

**Real Property Tax.** This is a tax on the assessed value of real estate. The Accokeek Furnace proposal will generate a development cost of \$117.25 million. For 350 units, this is an average price of \$335,000 per dwelling. Real estate in Stafford County is taxed at the rate of \$0.99 per \$100 of valuation. This will bring the total real property tax at the site to \$1.16 million each year in constant 2017 dollars, as Table 3 shows.

<b>Table 3   <u>Real Estate Taxes for the Accokeek Furnace Townhomes at Buildout (constant \$2017)</u></b>			
	<u>Number Of Units</u>	<u>Average Price</u>	<u>Amount</u>
20 Foot Townhouse	175	\$310,000	\$54,250,000
22 Foot Townhouse	<u>175</u>	\$360,000	<u>\$63,000,000</u>
Total Units	350		\$117,250,000
Tax Per \$100 Value			\$0.99
Real Estate Tax			\$1,160,780
Source: Brookfield Residential Properties and Stafford County			

**Personal Property Taxes.** Residences are assessed personal property taxes. For residents, this is a tax on motor vehicles. To address residential personal property taxes, the first step is to estimate the average depreciated value per vehicle in the County. The sequence of calculation to achieve this are shown in Table 4 and summarized as follows:

- The FY 2018 Adopted Budget for Stafford County gives an allocation of \$48.1 million for expected personal property taxes.
- Based on the percent of real estate assessments that are residential – 81 percent – it is estimated that residential personal property taxes are \$38.9 million.
- Dividing the total residential personal property tax by the tax rate produces the total assessed value of vehicles in the County, \$602 million at a 40 percent assessment ratio, or a total depreciated value of vehicles of \$1.51 billion.
- It is estimated that there are 93,500 vehicles in the County. Dividing the number of vehicles into the total assessed value of vehicles gives an average assessed value per vehicle of \$16,100.

<b>Table 4. <u>Estimation of the Average Depreciated Value of Residential Vehicles, Stafford County, Virginia (constant \$2017)</u></b>	
	<b><u>Amount</u></b>
Personal Property Tax	\$48,057,000
Percent Residential	0.81
Residential Property Tax	\$38,926,170
Property Tax Rate/\$100	\$6.46
Assessed Value	\$602,572,291
Assessment Ratio	0.40
Depreciated Value of Vehicles	\$1,506,430,728
Number of Vehicles	93,500
Average Value Per Vehicle	\$16,112
July1, 2016 Population	144,361
Vehicles Per Capita	0.65
Sources: FY 2018 Adopted Budget and Statistical Section for Stafford County, Virginia, and U.S. Census of Population	

The last step in deriving the personal property tax for residents of Accokeek Furnace townhomes is to estimate the number of vehicles at the site, apply the average vehicle depreciated value, and compute the property tax at the County rate of \$6.46 per \$100, assessed at 40 percent of value. In the analysis, an occupancy rate of 97 percent for the homes is assumed to account for normal turnover. The result is a projection of the personal property tax at \$266,400 annually.

<b>Table 5. <u>Derivation of Personal Property Taxes at Accokeek Furnace Townhomes at Buildout, Stafford County, Virginia (constant \$2017)</u></b>	
	<b><u>Amount</u></b>
Number of Homes	350
Occupancy Rate	0.97
Number of Households	340
Persons Per Household	2.91
Numbers of Persons	988
Vehicles Per Capita	0.65
Number of Vehicles	640
Average Value of Vehicles	\$16,112
Total Vehicle Value	\$10,309,368
Assessment Ratio	0.40
Vehicle Assessed Value	\$4,123,747
Tax Rate per \$100	\$6.46
Personal Property Tax	\$266,390
Sources: FY 2018 Adopted Budget for Stafford County, Virginia, and S. Patz & Associates., Inc.	

**Consumer Utility Taxes.** Expenditures on utilities are typically taxed in Virginia municipalities on the following utilities: electric, gas, water, land line, cell phone, and internet. For households, most utility taxes are approximately \$2.50 per month per utility; for five utilities, this is \$150 per household per year. For 340 households at the site, utility taxes would come to \$50,900 annually, as the following chart shows.



	<u><b>Amount</b></u>
Number of Utilities	5
Ave. Monthly Tax/Utility	\$2.50
Number of Months	12
Annual Utility Tax	\$150
Households	340
Utility Tax	\$50,930

**Motor Vehicle License Fees.** It was shown above that there would be an estimated 640 vehicles at the proposed subdivision. Motor vehicle license fees in the County are \$23 per vehicle, yielding total fees at the site of \$14,720.

**Recordation Tax.** The last tax to be considered for the townhome subdivision proposal is the recordation tax on the sale or transfer of property. It is assumed that on average a household remains in the same home for ten years. In 20 years, the tax would be paid three times: once on initial purchase, and twice on sales every ten years. Grantees of the transactions pay a state tax of \$0.25 per \$100 of valuation, of which one-third is returned to the municipality. Grantors to the transactions pay a state tax of \$0.10 per \$100 of valuation, half of which is returned to the municipality. On average, for each of 20 years, the recordation tax will be almost \$23,500, as Table 6 shows.

<b>Table 6 <u>Recordation Taxes at Accokeek</u></b> <b><u>Furnace Townhomes</u></b> <b>(constant \$2017)</b>	
Total Home Value	\$117,250,000
Original Sale Plus Every	10
Number of Years	20
Total Turns Per Dwelling	3
Total Taxable Value	\$351,750,000
Grantee State Tax Per \$100	0.25
Local Share of State	0.33
Local Tax Per \$100	0.08333325
Total Grantee Local Tax	\$293,125
Annual Average	\$14,660
 Total Taxable Value	 \$351,750,000
Grantor State Tax Per \$100	0.10
Local Share of State	0.50
Local Tax Per \$100	0.05
Total Grantor Local Tax	\$175,875
Annual Average	\$8,790
 Total Recordation Tax	 \$23,450
Sources: FY 2018 Adopted Budget for Stafford County, Virginia, and U.S. Census of Population	

**Summary of Tax Revenues.** Table 7 summarizes the tax revenues that could be expected to flow from the townhomes at Accokeek Furnace annually after buildout, reported in constant \$2017. The total would come to nearly \$1.32 million each year.

**Table 7. Summary of Annual Taxes Created On-site for Stafford County from Accokeek Annually at Buildout (constant \$2017)**

	<u>Amount</u>	<u>Percent</u>
Real Estate Tax	\$970,200	73.2%
Personal Property Tax	\$266,390	20.1%
Consumer Utility Tax	\$50,930	3.8%
Motor Vehicle License	\$14,720	1.1%
Recordation Tax	<u>\$23,450</u>	<u>1.8%</u>
Total Annual Taxes (\$2017)	\$1,325,690	100.0%
Source: S. Patz & Associates., Inc.		

### **On-site Costs to Stafford County**

The previous section has derived the major tax revenues that would accrue to Stafford County from the on-site development at the property under study. The fiscal impacts analysis compares revenues with costs. In this case, since taxes are deposited in the County's General Fund, those revenues from the site are compared with the tax-supported costs that the County would incur in serving the residents at the study site. Other sources of revenue are not included, because they accrue to separate funds in which expenditures generally equal revenues.

The source for determining the tax-supported costs the County would incur for service to the study site is the County's FY2018 Adopted Budget. In the succeeding paragraphs, the budget will be presented both in terms of budgeted expenses and the portion that must be tax supported. The tax-supported portion of the budgeted expenditures will be derived and expressed on a per capita basis – for population (representing residents), employment (representing businesses), and pupils (representing costs of public education). The per capita costs to the County will be applied to the population and pupils at the site to determine the overall costs to the County from the development of the site.

**Tax-supported County Costs.** The FY2018 Adopted Budget for Stafford County gives the proportion of each departmental or functional expenditure that must be supported by local taxes; these are shown in Table 8. Of the total General Fund budget, 76 percent must be supported by taxes. This is 86 percent for the transfer to the schools, and 77 percent for all other expenditures. The tax supported expenditures will be considered costs that must be paid by taxpayers, such as the residents of Accokeek Furnace townhomes.

<b>Table 8. <u>FY2018 Budget for Stafford County, Virginia: Total Adopted Expenditures, Designated Revenue, and Net Tax Support</u></b>				
<b><u>Department or Function</u></b>	<b><u>Adopted FY2018</u></b>	<b><u>Designated Revenue</u></b>	<b><u>Net Tax Support</u></b>	<b><u>Percent Taxes</u></b>
General Government	\$15,582,020	\$2,620,716	\$12,961,304	83.2%
Judicial Administration	\$3,628,585	\$919,617	\$2,708,968	74.7%
Public Safety	\$55,389,466	\$11,258,551	\$44,130,915	79.7%
Public Works	\$4,847,173	\$3,182,809	\$1,664,364	34.3%
Health and Welfare	\$13,065,804	\$8,192,101	\$4,873,703	37.3%
Recreation & Culture	\$17,357,326	\$2,475,161	\$14,882,165	85.7%
Community Development	\$5,707,174	\$1,889,782	\$3,817,392	66.9%
Miscellaneous	<u>\$23,114,985</u>	<u>\$631,622</u>	<u>\$22,483,363</u>	97.3%
Subtotal Except Schools	\$138,692,533	\$31,170,359	\$107,522,174	77.5%
Local School Funding	<u>\$147,722,626</u>	<u>\$20,034,627</u>	<u>\$127,687,999</u>	86.4%
Total General Fund	\$286,415,159	\$51,204,986	\$235,210,173	82.1%
Source: Adopted FY2018 Annual Budget for Stafford County, Virginia				

**Per Capita County Costs.** In Table 9 budgeted General Fund expenditures for FY2018 are allocated to population (residents), employment (businesses), and public school pupils. Most of the General Fund transfer to the School Fund is tax support, meaning that General Fund tax-supported costs per pupil are \$4,461, based on recent enrollment of 28,623 pupils in the County school system. Non-school expenditures are allocated by department to the two other classes of users, i.e., population and

employment. For most functional non-school departments, total FY2018 expenditures are allocated to the users in proportion to their numbers, 77 percent population and 23 percent employment. The exceptions are health and welfare, and parks and recreation, which are allocated in their entirety to population. Data in Table 9 show that the per capita cost of services and facilities for the population average \$606 per capita; for employees, the amount is \$469 per capita. The per pupil cost is \$4,461.

<b><u>Table 9. Allocation of FY2018 Tax-supported General Fund Expenditures to Residents, Employees, and Public School Pupils, Stafford County, Virginia</u></b>			
<b><u>Department or Function</u></b>	<b><u>Population Share</u></b>	<b><u>Employment Share</u></b>	<b><u>Total Tax Support</u></b>
General Government	\$10,005,758	\$2,955,546	\$12,961,304
Judicial Administration	\$2,091,246	\$617,722	\$2,708,968
Public Safety	\$34,067,812	\$10,063,103	\$44,130,915
Public Works	\$1,284,842	\$379,522	\$1,664,364
Health and Welfare	\$4,873,703	\$0	\$4,873,703
Recreation & Culture	\$14,882,165	\$0	\$14,882,165
Community Development	\$2,946,918	\$870,474	\$3,817,392
Miscellaneous	\$17,356,517	\$5,126,846	\$22,483,363
Subtotal Except Schools	\$87,508,961	\$20,013,213	\$107,522,174
Persons	144,361	42,642	187,003
Tax Cost Per Capita	\$606	\$469	\$575
Local School Funding	\$127,687,999	\$0	\$127,687,999
Enrollment	28,623	0	28,623
Tax Cost Per Pupil	\$4,461	\$0	\$4,461
Total General Fund	\$215,196,960	\$20,013,213	\$235,210,173
Sources: Stafford County, Virginia Adopted FY2018 Annual Budget, U.S. Census of Population, Virginia Employment Commission, and S. Patz & Associates, Inc.			

**On-site Costs to the County.** All residents living at the Accokeek Furnace townhomes would incur costs to Stafford County for services and facilities. The table above derived the per capita costs for each of these, i.e., for adults and students. The

discussion to follow estimates the numbers of residents and pupils that would be living at the site after buildout. The estimation of the number of residents is straightforward. The 340 households (occupied housing units) are expected to have 2.9 persons per household. This is a total of 988 people; at a cost of \$606 per person. The resident cost (including children) comes to \$598,870

Calculation of the costs of public school pupils is also straightforward. For 340 households, this would generate 214 pupils at a pupil generation rate of 0.63 public school pupils per townhome, according to the Stafford County Planning Department. At \$4,461 in General Fund tax supported expenditures per pupil, the cost of education of students at the new townhomes is \$954,150.

Total General Fund costs to the County of the development of the 350 townhomes would be \$1.55 million, as shown in the following chart:

	<u><b>Amount</b></u>
Population Costs	\$598,870
Pupil Costs	<u>\$954,150</u>
Total Tax-supported Cost	\$1,553,020

#### **Net Fiscal Impact On-site**

The cost of educating public school pupils reduces the fiscal impact at the townhomes to a deficit of \$227,000 out of total revenue of \$1.3 million. It will be shown below that an off-site revenue surplus for spin-off impacts would add a substantial tax revenue surplus to offset this deficit.

<u><b>On-site Impacts</b></u>	<u><b>Amount.</b></u>
Total Tax Revenue	\$1,325,690
Tax-supportable Costs	<u>-\$1,553,020</u>
Net Fiscal Benefit	-\$227,330



### **Off-site Impacts: Economic and Fiscal**

In addition to the revenues and costs that accrue to Stafford County from the development “on-site,” as described above, there are also off-site impacts that occur as residents spend part of their incomes off-site in the County, and as other businesses then re-spend the business receipts for the purchase of goods and services from other vendors in the County. The multipliers used in this analysis are specific to Stafford Virginia. Consumer budgets are identified by the U.S. Bureau of Labor Statistics by area and income level. About 77 percent of this income is spent, other uses being taxes, savings and transfers to others not living in the household. Among the larger expenditures by consumers are 19 percent for shelter and 27 percent for retail trade, including automobiles.

Consumer expenditures made off-site in the County are translated into economic impacts specifically for the County using multiplier matrices provided for the local area by the U.S. Bureau of Economic Analysis. These multipliers capture the round-by-round flows of expenditures in the County initiated by townhome residents. There are separate matrices for business receipts, employment and employee earnings. The items in the consumer budget are multiplied in turn by these expenditure-specific categories in each matrix and summed to give the “ripple effect,” “spin-off,” or “multiplier effect” of circulation of money through the economy. The ripple effects, plus the original consumer expenditures, equal the total economic impacts of apartment residents on the County economy.

#### **Business Receipts**

The chart below sets forth the economic dollar flows set in motion by activities on-site at the property. The direct expenditures represent the expenditures by residents at Accokeek Furnace townhomes. They total \$28.9 million for occupied housing units. Another \$75.8 million in indirect ripple effects or spin-off are created within the County. The indirect ripple effects are 2.6 times direct expenditures. Altogether, the business

impacts in Stafford County would come to \$104.7 million. These off-site impacts also create tax receipts and costs to the County as do on-site impacts (see above). These will be explained in paragraphs to follow.

<u>Source of Impacts Off-site</u>	<u>Amount</u>
Direct Expenditures	\$28,879,959
Indirect Ripple Effect	<u>\$75,787,025</u>
Total Business Receipts	\$104,666,984

### **Employment and Earnings**

The expenditures off-site by residents living at the property would create 555 jobs in the County. These off-site employment impacts would generate \$15.2 million in employee earnings in the County annually. This is an average of about \$27,000 per employee. This is a modest amount since most of the job impacts are in services, such as retail trade, eating establishments, and overnight accommodations.

### **Off-site Fiscal Impacts**

The methodology used in projecting fiscal impacts off-site mirror those used to project fiscal impacts on-site. As before, revenues will be limited to taxes, and costs will be those that must be tax-supported, as based on employment. The RIMS II multipliers from the Bureau of Economic Analysis separate receipts, employment and earnings impacts down into 21 different sectors, and the impact dollar amounts (business revenues) in the sectors form the basis for determining taxes. Many taxes can be calculated directly from these receipts, such as the retail sales tax, the lodging tax, and the meals tax. Other taxes are based on employment impacts in particular sectors.

For example, utility taxes in the County accrue from businesses at the rate of \$78 per employee. Similar relations to employment can be derived for real property taxes and personal property taxes, based on square footage per employee and costs per square

foot for real property and personal property, from experience on-site and at other developments.

To calculate each tax for 21 sectors for the impacts for the residential use on site would be tedious, so the results will be presented here in summary form according to the type of use on-site that generates the off-site spin-off impacts.

The residences at the new townhomes would generate \$768,000 in taxes off-site for the County annually some time after buildout and stabilized occupancies on-site. Off-site impacts would not be immediate, but would build over time as businesses gradually expand to meet increased demand for goods and services. As with tax-supported costs to the County for on-site uses, the cost to the County for serving expanded business is based on projected employment. The property should generate about 555 jobs off-site in the County. It was shown previously that each job represents about \$469 in costs to the County, for a total cost of about \$260,600 to the County from off-site uses. Deducting these tax-supported costs from projected tax revenues would leave a net fiscal benefit (tax revenue surplus) of over \$508,200 annually, in constant year 2017 dollars.

**Table 10. Summary of Fiscal Impacts Generated Off-site by Development of Accokeek at Full Impact (constant \$2017)**

	<u>Amount</u>
Real Estate Tax	\$247,350
Business Property Tax	\$228,610
Retail Sales Tax	\$89,230
Meals Tax	\$101,960
Transient Occupancy	\$48,670
Utility Taxes	\$48,830
Recordation Tax	<u>\$4,160</u>
Total Taxes	\$768,810
 Total Cost	 <u>-\$260,580</u>
Net Fiscal Benefit	\$508,230
Sources: Bureau of Economic Analysis, U.S. Department of Commerce, and S. Patz & Associates, Inc.	

**Total Fiscal Impacts**

With an off-site fiscal surplus of \$508,200 and an on-site deficit of \$227,300 per year, the net fiscal benefit at build out of the 350 townhomes to Stafford County would be approximately \$280,900 per year. As noted above, the off-site impacts may not all happen coincident with the on-site impacts, as the expansion of the local economy from the development will lag behind on-site development as businesses adjust to increased demand for their goods and services. The chart below summarizes the on-site and off-site fiscal impacts for the Accokeek, in constant year 2017 dollars.

<b><u>Total Fiscal Impacts</u></b>	<b><u>On-site</u></b>	<b><u>Off-site</u></b>	<b><u>Total</u></b>
Total Tax Revenue	\$1,325,690	\$768,810	\$2,094,500
Tax-supportable Costs	<u>-\$1,553,020</u>	<u>-\$260,580</u>	<u>-\$1,813,600</u>
Net Fiscal Benefit	-\$227,330	\$508,230	\$280,900