

A Business Plan
for
VIRIDIS PROPERTIES, INC.
at
4880 OLD DOMINION DRIVE
a
Four Lot Subdivision of Green Homes
in
Arlington County, Virginia 22207

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SCHEDULE OF EXHIBITS

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EXECUTIVE SUMMARY

Changes in the real estate market are presenting several challenges and opportunities for real estate developers. The end of the housing boom is likely to change the demands of homebuyers. Instead of buying any and everything for fear of missing out on potential price appreciation, buyers in the current market are more selective when buying a house. Bigger is not likely to be perceived as automatically better and greater attention will be paid to quality and location. Additionally, the environmental movement spurred by rising energy costs and fear of global warming is pushing green building to the forefront. Residential green building standards, while not as well established as in the commercial real estate market, are being rapidly developed and adopted and this market represents a unique opportunity for builders. Viridis Properties, Inc. is seeking to capitalize on these trends.

The 22207 zip code (the “Market Area”) is located in the northern part of Arlington County, directly across the Potomac River from Washington, DC and adjacent to the McLean area of Fairfax County. The Market Area is a largely built-out area of single family homes, most of which were developed during the post-WWII building boom. This area is very wealthy and home prices and incomes are substantially higher than both the Greater Washington Area and other portions of Arlington County. With close proximity to several job centers and amenities, as well as a top-notch school system, 22207 is a very attractive area for families. New homes in this area are largely the result of older obsolete homes being torn down and replaced.



The target demographic for new homes built in the Market Area is a well educated, dual income, wealthy couple having approximately two children. They are drawn to the Market Area because of its short commutes to Downtown DC and Tysons Corner, its access to great amenities and a great public school system for their children. Additionally, the potential for incorporating sustainable design and building techniques is a largely untapped market in 22207 and around the country. The demographics of those most desiring green homes are similar to the target market, signifying a potentially

greater demand for green homes in the Market Area than nationally focused research indicates.

Although still in its infancy, green homebuilding is quickly being adopted by the real estate industry. Two standards in particular are obtaining national attention, the first is LEED for Homes by the United States Green Building Council (USGBC) and the other is the National Green Building Standards (NGBS) currently being developed by the National Association of Homebuilders (NAHB) and expected to be incorporated into the International Residential Code, the building code currently used by Arlington County. Although LEED for Homes possesses greater name recognition because of its use in the commercial sector, NGBS represents a more flexible and more easily adoptable set of standards than LEED for Homes.

The Property selected as the first project by Viridis is located at 4880 Old Dominion Drive and is just over 40,000 square feet of land. Based on current land use plans and zoning, up to four single family detached homes can be constructed on the Property. Arlington County allows developers to submit an application for a Unified Residential Development (URD) that permits greater design flexibility than permitted solely by-right. Going through this process will enable Viridis to maximize the density permitted on the Property and create a more desirable site plan than otherwise possible. Viridis seeks to create a community with quality designed and built homes that complement the surrounding neighborhood and incorporate green building techniques. The proposed homes on the Property are between 2,880 and 3,280 finished square feet, substantially smaller than the average new home size in 22207 of 3,800 square feet.

Although the housing market is going through a substantial and painful correction from its highs of 2006, a more in-depth analysis of the national, regional and local markets shows substantial variation in these different markets. The Washington market is performing better than the national market and the Arlington County market is performing better than the Washington market. The Market Area, in turn, is outperforming Arlington County. Supply of homes and pricing are both holding up well in the Market Area with prices actually increasing in the Market Area by several percent while the national market has declined by more than 10% in the same period. In the new home market in 22207, however, almost all of the price increases are the result of builders selling larger homes than previously. On a price per square foot basis, new homes prices in the Market Area are largely unchanged.

Based on an analysis of the current new home sales market, it is projected that the eventual sales price for the homes on the Property will be \$1,195,000 and \$1,360,000 for the two homes types proposed for the Property. These prices incorporate a discount from list price that most new homes are experiencing as well as a conservative premium estimate of 3% for incorporating green building techniques. Additionally, the projected days-on-market for the homes is 103 days. These revenue and timing assumptions combined with an estimate of construction, land development and soft costs results in a residual land price of \$375,000 per lot and a total income to Viridis of just over \$700,000, or 13.5% of total revenue.

The marketing of the homes will focus on giving buyers the opportunity to improve their quality of life by shortening their commutes, providing their children access to top schools, and improving their health and the environment by living in green homes. Educating potential buyers about green homes is an important component in marketing the homes. Reaching the well-established network of residential brokers in the Market Area and educating and embracing them is key to attracting traffic and sales to the Property and producing a successful project for Viridis. The Company will seek to partner with another well-established local developer to overcome any potential problems from homebuyers or capital sources as a result of no previous track record for the company. This relationship, while reducing the potential pay-off to Viridis will also reduce the risk for the company and provide a valuable source of support and expertise.

Viridis plans to capitalize on the success of this project as it seeks to acquire and develop other properties following a similar strategy with the goal of becoming a recognized leader in building quality green homes.

INTRODUCTION: THE OPPORTUNITY

During the recent real estate boom, houses were built as fast as possible in seemingly any location that they would fit. It seemed that no builder could go wrong. Any and every new home sold quickly and oftentimes for more than the asking price. In the newer and outer suburbs of Washington, DC this resulted in the development of large tracts of property on previously undisturbed land. However, land for single family homes in the close-in suburbs, which are largely built out, is very scarce. Builders responded by acquiring older houses, tearing them down and building new houses, or purchasing oversized existing lots that could be subdivided into a larger number of smaller lots.

This was particularly the case in the zip code of 22207 in Arlington County (the “Market Area”) which is the geographic focus of this paper. Located in the northern corner of the county, 29,593 people lived here in 2000, representing 15.6% of the total population of Arlington County.¹ Bordered on the northeast by the Potomac River and to the northwest by Fairfax County, 22207 is a first-tier suburb comprised of mostly older single family residences that were built during the first boom period for Washington, DC, just after World War II. The proximity of the area to major job centers, the wealth and demographics of its residents, the lack of large tracts of land, and the older housing stock made the Market Area a prime target for small builders.

The business model of these builders was simple: knock down a small, aged house and replace it with a larger new house. The bigger the house, the more someone would pay for it and the more money the builder made. As the boom continued, there seemed to be less and less regard for architectural quality, design efficiency or how a project blended with the surrounding neighborhood.

The housing boom has now ended and the market is in a period of substantial change. Going forward, builders will have to adapt their strategies to keep up with the changing market and the changing preferences of homebuyers. In particular, two driving forces will likely change the preferences of homebuyers across the county and present significant challenges to builders executing this business model. One of these trends is economic and is tied directly to the end of the boom. The other trend has its roots

¹ 2000 US Census, DP-1: Profile of General Demographic Characteristics: 2000.

elsewhere but is a social movement that will profoundly impact the preferences of many homebuyers.

The first driving force is the changing real estate market associated with the end of the real estate boom of the last several years. According to the Case-Shiller Index of Home Prices for the Washington MSA, home prices peaked in May, 2006. Through December of 2007, prices had fallen more than 13% since that peak. Although the impact on prices has been substantially less dramatic in the inner Northern Virginia suburbs, particularly 22207, the changing market will likely have a large impact on the preferences of homebuyers throughout the region.

The conventional wisdom over the last several years was that homeownership was best accumulating wealth. With prices increasing at steady rates, many buyers stretched their wallets to acquire the most house they could afford. After all, the more house one bought, the more money one would make as prices increased. Many of these buyers are waking up to a different reality as prices have adjusted downward and their dreams of riches are dashed.

Going forward, homebuyers will likely stop looking at a home as a financial instrument guaranteeing future wealth and will begin to put a greater emphasis on the qualities of a house and how it meets their lifestyle requirements. Items such as design, location, and quality will become a much more important factor in a homebuyer's decision making process. Instead of purchasing homes first as an investment and second as a place to live, these priorities will be reversed.

The other trend with substantial implications for the homebuilding industry is the "greening" of America. Concern over the environment and the impact of humans on climate change has gone from a dull buzz to a loud roar in recent years. Over the last several years, sustainable design and green buildings have entered the national consciousness. The green building movement started as a niche in the commercial market and has quickly gained momentum there. The US Green Building Council's Leadership in Energy and Environmental Design (LEED) has set the bar with its certification program for determining what makes a green building. In many markets, Washington, DC included, green building for commercial buildings is quickly becoming the norm. Green buildings are designed to be more energy efficient, use less resources in their construction and operation, and provide a healthier environment for their inhabitants.

Arlington County has been on the forefront of this trend by requiring all site plans and use permits to complete a LEED scorecard and encouraging LEED Certified buildings or higher. In December 2007, the County Board approved the first LEED Platinum designed building to be built in the state of Virginia – a 30 story office building in Rosslyn. Additionally, the first LEED Silver building in Virginia is the Langston Brown Community Center and School located in the 22207 zip code.

Despite the progress sustainable design has made in the commercial market and in other aspects of daily life (e.g. the introduction of hybrid cars), the adoption of sustainable design in the residential market has been slow. Recent trends suggest this will change. Homebuyers are becoming more aware of the green building movement. As green building standards are adopted and the media continues to push the issue into the mainstream, they will come to demand these features in new homes. This will especially be the case in high-priced close-in suburbs such as Arlington County where homes sell for substantially more than the national and regional averages.

Builders that fail to anticipate and adapt to these fundamental changes will find themselves at a competitive disadvantage to those that do.

This paper will demonstrate there is a substantial opportunity to build single family homes in the Market Area. Its location in the metro area, the demographics of its residents, the quality of the public schools, and the functional obsolescence of much of the current housing stock make the Market Area a very desirable place for both buyers and builds of new homes. Further, additional value can be created in the eyes of potential homebuyers by incorporating sustainable design and green building methods that are not currently being offered today.

This paper is structured as a project business plan for, Viridis Properties, Inc., a builder proposing to build green single family homes in the Market Area (Viridis is Latin for green). Having identified the desired use, this paper will identify a target buyer and analyze the specific preferences of that buyer, supporting the viability of this strategy through an analysis of the demographics and current new home market in the Market Area. The second half of the paper analyzes a specific site upon which this use can be built. A property will be selected and a full assessment of the site will be performed, including the design of a preliminary site plan, marketing strategy and detailed financial analysis.

MARKET AREA DEFINITION

The zip code of 22207 is located in the northern corner of Arlington County, Virginia. According the 2000 US Census, 29,593 people resided in the Market Area and this comprised 15.6% of the total population of Arlington County of 161,333.¹ The land area of the Market Area is 6.6 square miles and account for 25.6% of the total land area of the county of 25.8 square miles. Given its lower density compared to the rest of the county (evidenced by having a larger percentage of the total land compared to its percentage of the total population), its no surprise that the Market Area is comprised mostly of single family detached homes.

With the exception of a very small portion, the northeast boundary of the Market Area is the Potomac River and the District of Columbia. Chain Bridge is the only connection between the two jurisdictions. This bridge is located at the northern corner of the Market Area. To the northwest of the Market Area is the McLean area of Fairfax County. This northwest border was the original boundary of the District of Columbia prior to the establishment of Arlington County. The southern and western boundaries of the Market Area are other zip codes in Arlington County. The 22201 and 22203 zip codes are areas of higher density and contain most of the Rosslyn-Ballston Metro Corridor.



The remaining border areas, 22213 and 22205 are similar to the Market Area in that they are dominated by single family detached homes. A larger map showing the Market Area in the context of the Washington Area is attached at **Exhibit 2A**.

The development paradigm in the Market Area over the years has led to an area that is undoubtedly suburban in nature. It is, however, a different suburbia than in the further out and more recently developed suburbs of the Washington area. The street system in

¹ 2000 US Census, DP-1: Profile of General Demographic Characteristics: 2000

Arlington is loose grid system that results in a connectivity among neighborhoods that is not typically found in the newer suburbs which were built subdivision by subdivision with little connectivity among them. The Market Area is also more dense than the further out suburbs and with a greater diversity of house-types and sizes.

The Market Area is located entirely within the boundaries of Arlington County, Virginia. At just 25.8 square miles, Arlington is smallest county in the United States. However, with 202,800 people estimated to be living in the county in 2007, Arlington's population density of over 8,000 people per square mile makes it one of the densest counties in the country.² There are two primary commercial corridors in Arlington County – the Rosslyn-Ballston Corridor and Pentagon City/Crystal City – both of which are along routes of the Metro subway system.

Additionally, Arlington County residents are very wealthy. According to the 2006 American Community Survey by the US Census Bureau, the median household income for Arlington County was \$87,350 – 10% higher than the Washington MSA median household income of \$78,798 and 80% higher than the average household income for the US of \$48,451. The demographics of the county and of the Market Area are discussed in greater below later in this section.

While 22207 has no real commercial center within its boundaries, it is easily accessible to the largest commercial and employment districts in the Washington Area. The Market Area is centrally located among the 4 largest Regional Activity Clusters as defined by the Washington Council of Governments. These clusters – Downtown Washington, Pentagon/Reagan Airport/Alexandria Area, Dulles Corridor, and the Tysons Corner Area – represent almost one-third of the total jobs in the Washington MSA.³ Additionally, the Market area is adjacent to the Rosslyn-Ballston Corridor, the seventh largest regional cluster and home to over 99,000 jobs in 2005.

² 2007 Arlington County Population estimate from the Arlington County, Virginia, Department of Planning, Housing and Development.

³ “Metropolitan Washington Regional Activity Centers and Clusters”, Publication 20078299 by Washington Council of Governments, April 2007.

Regional Activity Center	Area Rank	2005 Jobs	Distance from Market Area
Downtown Area	1	638,037	5.2 miles
Pentagon/Reagan Airport/Alexandria Area	2	141,162	7.8 miles
Dulles Corridor	3	111,156	20.0 miles
Tysons Corner Area	4	105,567	5.8 miles
Rosslyn/Ballston Corridor	7	99,279	1.5 miles

This proximity to multiple job centers results in the Market Area having one of the shortest commutes in the Washington MSA. According to the 2000 US Census, the average commute to work in the Market Area was 25.7 minutes, slightly shorter than the average for all of Arlington County of 27.3 minutes. This difference existed despite the fact that only 12.4% of workers in 22207 took public transportation to work compared to 23.3% for Arlington County. Although no more recent data exists specifically for 22207, by 2006 the average commute to work for Arlington County residents actually fell to an average of 26.3 minutes. The average commute in the Washington MSA was 33.2 minutes in 2006, almost 7 minutes longer than the average for an Arlington resident. Over the course of a year, this difference adds up to about 60 hours of saved commuting time for the average Arlington County resident. As traffic in the Washington area worsens, the Market Area will continue to be an attractive area for homebuyers commuting to the any one of these activity centers.

Market Area Demographics⁴

The following provides a detailed analysis of the demographics of the Market Area and how they compare to Arlington County. In short, the Market Area is wealthier, more educated, older, and comprised of more families compared to Arlington County as a whole. This is not surprising given the predominance of single family homes in the Market Area while the county has a more diverse housing supply. The below numbers for Arlington County are for the county as a whole, including the 22207 Market Area. In every instance, the statistics for the Market Area show a significant variance from the county. Since the county data includes the Market Area, however, the following statistics appear to actually understate the difference between the county and the Market Area. Since the population of the 22207 zip code accounts for more than 15% of the total population of Arlington County, they can have a substantial impact on overall county statistics, skewing the county numbers toward the Market Area figures.

⁴ Unless otherwise noted all statistics for 2000 are from the 2000 US Census and all figures for 2006 are from the 2006 American Community Survey, both provided by the US Census Bureau.

This demographic information and analysis is relevant for two reasons. First, homebuyers are likely to buy homes in an area with similar demographics to their own. Wealthy well-educated families, given the choice, are likely to choose to buy a home in a wealthy neighborhood among well-educated neighbors than they are to live in a poorer neighborhood among lesser educated neighbors. Additionally, I believe a substantial proportion of the potential homebuyers are likely to come from within a relatively close distance from the Market Area. In 2006, approximately 38% of the total households that purchased a home in Arlington County already lived in the county. An additional 17% of the same population came moved from a different county within the state of Virginia.⁵

Income – In 1999, the median household income in the Market Area was \$100,390 meaning that just over 50% of the households earned more than \$100,000 per year. In the same year, the Arlington County median income was \$63,350 with only 27% of the total households earning more than \$100,000.⁶ By 2006, the county median income had increased to \$87,350 – an increase of almost 39% or 4.8% per year. During this same period, the average household income grew from \$78,025 in 1999 to \$116,051 in 2006 – an increase of almost 49% or 5.8% per year. While no data exists for the Market Area for 2006, the following was estimated by applying the county income growth rates to the 1999 data for the Market Area:

Household Income	<u>Median</u>		<u>Average</u>	
	1999	2006	1999	2006
Market Area (22207)	\$116,114	\$154,000	\$118,883	\$167,000
Arlington County	\$63,001	\$87,350	\$78,025	\$116,051

Bold is estimate

It is worth noting that the average income grew at a faster rate than the median income over the same time period. This would imply that household income for those households earning the most increased at a faster rate than those earning less. Since the Market Area has a higher median and mean income than the county overall, income in the Market Area grew substantially faster than incomes in the county as a whole.

⁵ US Census Bureau, 2006 American Community Survey, Geographic Mobility by Selected Characteristics in the United States.

⁶ 2000 US Census

Families in Arlington County and the Market Area were substantially better off than households. In 1999, the median family income in the Market Area was \$115,064 – 15% higher than the median household income. (The Census Bureau defines a family as two or more related people living together whereas a household may be comprised on non-related people.⁷) This differential would imply that families are able to afford a more expensive home.

Families and Family Size – In the Market Area, 67% of the total number of households are families, compared to only 46% for Arlington County. In Arlington as a whole in 2006, there were actually very few children under the age of 18, with only 16% of households meeting these criteria. This is one of the lowest percentages in the MSA. The figures for the Market Area, however, are strikingly different from the rest of the county. In the 2000 census, the most recent date for which figures are available for the Market Area, 29% of the total households have children under the age of 18 – nearly double the percentage of all of Arlington County. The average family size in the market area in 2000 was 2.99 people, much larger than the average Arlington County family of 2.15 people. The predominance of families in the Market Area is supported by 2000 Census data which states that 59.3% of all residents aged 15 year and over in the Market Area are married compared to only 43.6% for all of Arlington County. Families are clearly the dominant household type in the Market Area.

Education – The population of 22207 is extremely well educated. In 2000, 70.5% of the population aged 25 and over had obtained a bachelors degree or higher. Additionally, 55% of this 70.5% (38.8% of the total over 25 population) has a graduate or professional degree. By comparison, 60.2% of Arlington County residents aged 25 and older had obtained a bachelors degree or more – the highest percentage in the Washington MSA in 2000.⁸ Since 22207 comprises approximately 15% of the county population, this percentage was inflated by the inclusion of 22207. Excluding 22207 from the Arlington population would increase the education gap between the Market Area and the rest of the county.

⁷ US Census Bureau, Current Population Survey (CPS) - Definitions and Explanations

⁸ “Arlington County and the Region.” From the Arlington County Planning Department.

Educational Attainment (25 and older) - 2000		
	Mkt Area	Arlington
% Having Bachelors Degree	31.7%	29.6%
% Having Graduate Degree	38.8%	30.6%
Total	70.5%	60.2%

Age – Not surprisingly given the higher income, predominance of families, and higher education attainment, the residents of the Market Area are also older than the average Arlington County resident. Although there are a larger percentage of children in the Market Area than Arlington County, the age difference between the two was largely the result of an extremely high number of 25-34 year olds living in the county. In 2000, 25.2% of the county's population was aged 25-34 range compared to only 13.6% for the Market Area. This disparity is largely explained by the preponderance of single family homes in the market area compared with a significant supply of multi-family dwelling units in other parts of the county – particularly the commercial corridors.

In 2000, the average age of the total population of the market area was 39.7 years, more than five years older than the average county resident. By 2006, the average age of county residents had climbed 3.7 years from 34.0 years to 37.7 years. A similar increase in age for the Market Area would result in an average age of 43.4.

Homeownership – The rates of homeownership in the Market Area is substantially higher than Arlington County. In 2000, the percentage of owner occupied homes was 78.3% for the Market Area and only 43.3% for Arlington County. That is almost double the rate of homeownership for the Market Area compared the county. By 2006, the homeownership rate for the county had increased drastically to 53.6%. This is likely the result of the housing boom and, in particular, the condominium boom that occurred in the first half of this decade. This increased homeownership in two ways. First, new condominium units were built. Second, a large number of rental units were converted to condominium units thereby both decreasing the number of renters and increasing the number of homeowners.

Psychographics – Community Tapestry is classification system developed by ESRI to break down populations into specific segments based on demographic and socioeconomic statistics. This system is used heavily by sophisticated retailers who use it to analyze the buying habits of the surrounding population when looking at a site for a new store. If the Community Tapestry segments match their targeted market – there is a

strong probability that a store in that location will be successful. Community Tapestry breaks the population down into 65 different segments.

According to ESRI, the three most common Community Tapestry segments in the Market Area are described below. A more detailed description of each segment produced by ESRI is included in **Exhibit 2B**.

- **Connoisseurs** – These residents are married with families, well educated, wealthy, have an average age of 46.9 years, and a median home value (nationally) of \$772,844. Additionally, this group is number one in conspicuous consumption and lead healthy and active lifestyles.
- **Trendsetters** – This group is young, diverse, and well educated. They are not as wealthy as Connoisseurs and tend to be single and more likely to live in apartments or condominiums.
- **Top Rung** – This is the wealthiest segment in Community Tapestry, representing the top 1% of all households with a median income of \$181,415 and a median home value of \$1,078,501. The average age in this group is 41.9 years. They are mostly families with children and enjoy traveling, luxury cars and reading. The Top Rung also lead a healthy lifestyle and actively participate in their communities.

Demographic Trends

It is not likely that a major shift will occur in the demographics of the Market Area over the next several years (or decades). The Market Area will continue to be dominated by single family homes. Although Arlington County is undergoing substantial redevelopment in its commercial corridors such as the Rosslyn-Ballston Corridor, Pentagon City/Crystal City, and Columbia Pike, such redevelopment is not likely to happen on a major scale in 22207. The growth occurring in those corridors was carefully planned by Arlington County officials and those areas were specifically targeted for redevelopment, particularly around Metro Rail Stations. The Market Area does not have any Metro Rail stations within its boundaries and no real commercial corridors, nor are there any plans to bring Metro Rail into 22207 or to revitalize any of its neighborhoods by promoting large scale redevelopment. The Market Area is very likely to stay a collection of single family home neighborhoods for the foreseeable future.

The Market Area will also continue to be convenient to multiple job centers in the Washington Area, including Downtown and Tysons Corner. Although the future job

trends of the area are unknown and it's likely that new job centers will grow in the outer suburbs of the area, it's not likely that either of these areas will experience significant contraction in jobs. Further, Arlington County's focus on redeveloping its commercial corridors is expected to result in additional growth of the Rosslyn-Ballston Corridor, the closest significant job center to the Market Area.

Given its proximity to jobs and amenities in the Washington area, the quality of its public schools, and the character of its older neighborhoods, the Market Area will continue to be a coveted place to live. Given little anticipated change in the supply of homes in the future, prices for homes are likely to continue to rise. Over time, these trends will force the demographics upward with the residents becoming wealthier and likely more educated. As longtime residents who moved here when the homes were more affordable retire and leave the Market Area, they will be replaced by newcomers who are going to be substantially wealthier. Given the anticipation of higher housing prices in the future, the area will continue to be dominated by families who will be attracted to the quality of the public schools (discussed below) and who, as a whole, are wealthier than non-family households and therefore more able to afford to live in the Market Area.

Schools

One of the key ingredients to attracting and retaining families to an area is the quality of the public schools. Logically, the better the schools the greater the demand to live in that area. All else being equal, higher demand results in higher prices. This is particularly true in older areas like 22207 where there is very little additional supply to absorb the higher demand without forcing prices upward. As it turns out, the schools in the 22207 Market Area are among the best in Arlington County, the Commonwealth of Virginia, and the United States.

Elementary Schools – The Market Area is served by five elementary schools – Jamestown, Nottingham, Taylor, Tuckahoe, and Glebe. When ranked by their Standards of Learning (SOL) test scores and compared against all of the 1,112 elementary schools in the state, all but one of the schools is ranked in the 84th percentile or higher⁹. Two schools – Jamestown and Nottingham – rank in the 97th and 96th percentile, respectively. These schools are also ranked third and fourth among Arlington County's 22 elementary schools. The highest ranked school in the county, Arlington Traditional School, is a

⁹ Elementary School SOL scores and rankings from www.schooldigger.com. Source: National Center for Education Statistics, US Department of Education and Virginia Department of Education.

magnet school to which all children in the county may apply. Only one school – Glebe – does not rank highly and is ranked in the 28th percentile in the state. The following table summarizes the ranking Market Area’s elementary schools against other schools in the state. The elementary schools serving the Market Area are in bold.

Arlington County Elementary Schools - State Rankings

<u>School</u>	<u>Rank* (of 1112)</u>	<u>Percentile</u>	<u>Total students (2006)</u>	<u>Student/Teacher Ratio (2006)</u>	<u>Recv free/disc lunch (%)</u>	<u>SOL, Avg Math score (2007)</u>	<u>SOL, Avg Reading score (2007)</u>	<u>SOL Combined**</u>
Arlington Traditional	11	99%	441	13.40	15.00	97.67	98.33	196.00
McKinley Elementary	24	98%	382	11.90	11.50	97.00	97.33	194.33
Jamestown Elementary	33	97%	535	13.70	4.10	96.00	96.67	192.67
Nottingham Elementary	42	96%	360	12.40	4.20	96.00	96.00	192.00
Arlington Science Focus School	95	91%	412	12.10	28.40	95.33	94.00	189.33
Taylor Elementary	120	89%	572	14.70	4.50	93.67	94.00	187.67
Ashlawn Elementary	156	86%	323	10.80	24.50	94.67	91.67	186.34
Tuckahoe Elementary	177	84%	557	13.90	4.70	94.33	91.33	185.66
Long Branch Elementary	363	67%	441	10.50	28.60	89.00	89.67	178.67
Oakridge Elementary	451	59%	444	11.70	52.00	92.00	83.33	175.33
Henry Elementary	451	59%	342	9.50	62.00	90.33	85.00	175.33
Francis Scott Key Elementary	502	55%	609	12.20	36.30	87.67	86.00	173.67
Claremont Immersion School	705	37%	419	12.70	36.50	84.33	82.00	166.33
Glebe Elementary	804	28%	327	10.20	31.80	81.33	81.33	162.66
Barrett Elementary	814	27%	358	8.50	67.00	86.00	76.00	162.00
Abingdon Elementary	1004	10%	363	10.10	66.70	79.00	72.67	151.67
Campbell Elementary	1018	8%	276	9.90	75.40	76.33	73.67	150.00
Drew Model Elementary	1054	5%	461	10.50	49.90	72.33	73.33	145.66
Hoffman-Boston Elementary	1066	4%	393	9.80	69.00	78.67	64.33	143.00
Barcroft Elementary	1073	4%	362	9.80	63.30	76.33	66.00	142.33
Randolph Elementary	1078	3%	365	8.90	82.70	76.00	65.33	141.33
Carlin Springs	1109	0%	497	12.10	75.50	62.00	56.33	118.33

Source: Schooldigger.com, National Center for Education Statistics, U.S. Dept of Education, and Virginia Department of Education

* Rank is determined by adding each school's average SOL Mathematics score with the average SOL English Reading score to form a combined average score. The school with the highest combined score is ranked #1.

** The values used in the SOL columns are % passed.

Middle Schools – There are a total of five middle schools serving all of Arlington County. The top two middle schools in the county, as ranked by their SOL scores, both serve students in the Market Area. These two schools – Swanson and Williamsburg – are both ranked in the 85th percentile or higher compared to all of the 327 middle schools in the state.¹⁰ The following table summarizes these schools.

¹⁰ Middle School SOL scores and rankings from www.schooldigger.com. Source: National Center for Education Statistics, US Department of Education and Virginia Department of Education.

Arlington County Middle Schools - State Rankings

<u>School</u>	<u>Rank* (of 327)</u>	<u>Percentile</u>	<u>Total students (2006)</u>	<u>Student/Teacher Ratio (2006)</u>	<u>Recv free/disc lunch (%)</u>	<u>SOL, Avg Math score (2007)</u>	<u>SOL, Avg Reading score (2007)</u>	<u>SOL Combined**</u>
Swanson Middle	47	86%	797	13.3	20.2	79.0	90.0	169.0
Williamsburg Middle	49	85%	993	13.1	13.0	79.5	89.0	168.5
Jefferson Middle	251	23%	640	10.2	61.7	63.5	71.5	135.0
Gunston Middle	277	15%	651	10.9	56.2	51.0	77.0	128.0
Kenmore Middle	308	6%	761	11	51.9	54.5	64.0	118.5

Source: Schooldigger.com, National Center for Education Statistics, U.S. Dept of Education, and Virginia Department of Education

* Rank is determined by adding each school's average SOL Mathematics score with the average SOL English Reading score to form a combined average score. The school with the highest combined score is ranked #1.

** The values used in the SOL columns are % passed.

High Schools – Washington-Lee and Yorktown are the two high schools serving the Market Area with a large majority of the Market Area feeding into the Yorktown school district. Both of these schools, according to Newsweek Magazine, are among the best high-schools in the country. In 2007, Newsweek compiled a list of the 1,300 best high-schools which ranks schools based on the percentage of Advanced Placement and International Baccalaureate tests taken by all students.¹¹ Washington-Lee and Yorktown ranked 33rd and 59th on this list, respectively, putting them in the top 1% of high schools in the nation. With the exception of HB Woodlawn, these were the highest ranking schools in Arlington County and the third and fourth ranked schools in the state. HB Woodlawn, located in the 22207 Market Area, is a magnet school serving all residents of Arlington County. Admission to HB Woodlawn is done by lottery system. The following is a list of the top ten high schools in Virginia according to Newsweek Magazine.

¹¹ “The Top of the Class: The Complete List of the 1,300 Best Schools.” www.newsweek.com

Top Ten High Schools in Virginia
From "The Complete List of the 1,300 Best Schools - 2007"
Source: Newsweek Magazine

<u>School</u>	<u>US Rank</u>	<u>Location</u>	<u>Index</u>	<u>Subs. Lunch</u>	<u>E & E</u>
H-B Woodlawn	13	Arlington	5.95	13.00	69.00
Clarke County	32	Berryville	4.73	13.20	74.00
Washington-Lee	33	Arlington	4.72	37.00	52.20
Yorktown	59	Arlington	4.13	17.00	62.30
George Mason	63	Falls Church	4.06	7.00	71.00
W. T. Woodson	65	Fairfax	3.94	6.00	57.60
Langley	72	McLean	3.72	1.00	72.00
Warwick	74	Newport News	3.67	45.00	19.50
McLean	76	McLean	3.61	6.00	67.00
Lake Braddock	100	Burke	3.40	10.00	53.60

Note: Subs. Lunch % is the percentage of students receiving federally subsidized meals. E and E stands for equity and excellence percentage: the portion of all graduating seniors at a school that had at least one passing grade on one AP or IB test.

Washington-Lee is currently undergoing a massive renovation and reconstruction of its facilities and Yorktown is following suit with a \$103 million reconstruction of almost all of the existing facility approved by the Arlington County Board in late 2007. Additionally, the Yorktown High School will be certified to the LEED Silver standard for sustainable and environmentally friendly design and construction. Construction is schedule to begin in June, 2008.¹² If learning is a product of the teaching environment, both of these schools will continue to provide an outstanding education to their students for many years to come and serve to attract and retain residents in the area.

Market Area Housing

As mentioned earlier, the housing supply of the 22207 market area is dominated by single family detached homes. Specifically, 80.1% of the total housing units in 2000 were single family detached homes – a total of 9,412 homes. Comparatively, only 30.6% of the homes in Arlington County were single-family detached homes.

The homes in the Market Area are old. Eighty-five percent of the total housing units in 22207 were built before 1960. A look at the distribution of housing units by age for the

¹² "Arlington County Board Approved Yorktown Construction." Arlington County Press Release, October 13, 2007.

Market Area goes a long way toward telling the history of growth and development in the area.

Year Housing Structure Built - 2000
Market Area

Range	Years	# Homes Built	Homes/ Year	% of Total
1999 to March 2000	1.25	72	58	0.6%
1995 to 1998	4	217	54	1.8%
1990 to 1994	5	169	34	1.4%
1980 to 1989	10	476	48	4.1%
1970 to 1979	10	785	79	6.7%
1960 to 1969	10	1,723	172	14.7%
1940 to 1959	20	6,220	311	52.9%
1939 or earlier	n/a	2,086	n/a	17.8%
Total		11,748		100.0%

Almost 53% of the total housing units were built between 1940 and 1959. Although this period represents a longer time period than the other periods in the above table, it clearly represents the largest period of growth for the market area with over 300 units built per year, almost double the next most rapid growth period. This twenty year period was the first wave of suburbanization of the Washington area as growth moved outward from the central city – fueled by the postwar economic boom and made possible by the integration of the automobile into everyday life. 22207 was one of Washington’s first bedroom communities in Virginia.

By about 1970, the construction of new homes in the Market Area dwindled and has steadily declined since then. To be sure, this slower growth was not the result of the poor economic times in the Washington area. In fact, the Washington area continued (and continues today) to grow at a rapid pace. Rather, the Market Area had become built out and the amount of vacant land available for new land was negligible – forcing builders and residents to go further out from the urban core of Washington.

While the dominance of older houses in a neighborhood often adds to the charm and desirability of a neighborhood – these homes also create some problems. First, the average size of a new single family home in the United States in 1950 was 983 square feet. By 2004, this average had jumped substantially to 2,349¹³ and in many wealthy

¹³ Average Homes sizes in 1950 and 2004 from “Housing Facts, Figures and Trends.” National Association of Homebuilders. March, 2006.

neighborhoods, such as 22207, the average size of a new home was substantially larger than that. A 983 square foot house does not meet the requirements (and certainly not the desires) of today's modern family. Second, the homes built in the Market Area's heyday were not built to today's building and design standards. For example, it is likely to be poorly insulated compared to today's homes, have single pane instead of double or triple pane windows, have small kitchens without modern appliances, and not have enough bathrooms.

The functional obsolescence of these older houses has spurred two industries that are impossible not to notice when walking or driving through the neighborhoods of 22207 – home renovations and tear-downs. During the recent real estate boom, the velocity of both of these activities reached a fever pitch that seems to have only barely slowed down as the national housing market undergoes a correction. Evidence of massive renovation and expansion projects is clearly evident on a large percentage of houses in the Market Area. In many instances, the older houses were beyond renovation to the point where the value of the house was less than the value of the land it was built on.

In this latter situation, the houses were often sold to builders who demolished the existing house and built new homes on the land. Alternatively, many houses were built on large parcels of land that, under today's zoning and subdivision ordinances, could be re-subdivided into multiple lots. With raw land being virtually non-existent in the Market Area, this pattern of redevelopment is the predominant form of neighborhood growth and new home construction in the Market Area.

Redevelopment is likely to continue to define the growth patterns in the Market Area. Although many other portions of the county are experienced rapid redevelopment as the commercial corridors are redeveloped into substantially denser and urban environments, this is not likely to happen in 22207. Almost all of the intense redevelopment in Arlington County has been focused in the commercial corridors around Metro Rail stations. There are no transit stations located in 22207 nor are any planned in even the most aggressive regional transit plans. Clearly, the Market Area will continue to be dominated by single family detached housing for the foreseeable future.

According to information provided by the Metropolitan Region Information System (MRIS), new home sales in the Market Area in 2007 accounted for just over 12% of the total homes sold (48 new homes out a total of 382). While this is only a small part of the total number of homes sold, it appears to be quite a large number considering the lack of

available raw land in the area. Most of these homes were built on land occupied by a previous house that was torn down.

Arlington County provides the square footage of all of the homes in the county through its online real estate assessment database. The county's definition of house size is the total above grade finished square footage, thus excluding any finished basement areas as well as any garage or unfinished attic spaces. For the 85 new homes that sold in the Market Area in 2006 and 2007, the average home size was 3,800 square feet.¹⁴ NAHB, in a 2007 report,¹⁵ measured the average size of a new home in 2005 to be 2,434 square feet, making the average new home in the Market Area 56% larger than the average new home in the United States. When put in the context of the market forces in the Market Area, however, this trend toward larger homes is understandable. As previously mentioned, the lack of raw land for new homes in Arlington forces builders to purchase older homes and replace them with new homes. For the land value to exceed the value of the existing home, the builder must be comfortable that the sale price of what can be built is high enough so that he can pay market value for the land and still turn a reasonable profit. The most obvious way of getting the highest price for the new home is to build the largest house possible. This was particularly true during the recent boom cycle when homebuyers were driven to purchase homes largely for economic reasons and factors such as quality and design were seemingly less important.

Not surprisingly, the average and median sales prices of new homes in the Market Area is also substantially higher than the national average. In addition to the houses being larger – higher income, great schools, and proximity to amenities and employment centers all keep the demand for homes in the Market Area high while the lack of available land keeps supply low. Inevitably, these forces result in high prices.

The average and median sale prices of all single family detached homes sold in the Market Area in 2007 were \$984,449 and \$830,263, respectively. By comparison, the average and median prices of new single family detached homes in the Market Area over the same period were \$1,685,737 and \$1,612,039, respectively.¹⁶ While a more detailed analysis of new home prices for the Market Area is included in the Market Analysis section of this paper, these numbers are presented here to demonstrate several things.

¹⁴ See Exhibit 9A

¹⁵ "Housing Facts, Figures and Trends." National Association of Homebuilders. May, 2007.

¹⁶ MRIS

First, to show how high the prices for new homes are in the Market Area compared to both existing home sales in the Market Area and new home sales figures for the nation. In April 2006, the national peak of the housing boom, the average and median new home prices for the US were \$310,300 and \$257,000, respectively.¹⁷ The gap between the Market Area and the rest of the nation is tremendous, with the average price of a new home in 22207 equal to more than five times the national average.

Second, these figures show the price differential between new homes and total homes in the area. This differential provides evidence of the size of the new homes compared to existing homes. While new homes intuitively command a premium over older homes, its highly unlikely that the 71% premium of the average new home price over the average price of all single family homes is solely a result of a new home premium. Clearly, there must be a size differential to account for this large premium.

¹⁷ US Census

This map illustrates the Washington, D.C. metropolitan area, with the District of Columbia at the center. The Market Area is highlighted in purple, indicating a core urban zone. Surrounding areas in Maryland and Virginia are shown in light green. Major transportation routes, including Interstate 495 (Capital Beltway), Interstate 270, and Interstate 66, are depicted in blue. The map also shows the Potomac River to the west and the Annapolis River to the east. Various cities and towns are labeled, such as Bethesda, Silver Spring, Gaithersburg, Rockville, and Arlington. The map provides a comprehensive overview of the region's geography and infrastructure.

01 Top Rung

Segment Code..... 01
Segment Name..... *Top Rung*
LifeMode Group L1 *High Society*
Urbanization Group..... U3 *Metro Cities I*



Demographic

Top Rung residents are uniformly mature, married, highly educated, and wealthy. The median age is 41.9 years. Nearly one-third of the residents are in their peak earning years of 45–64. Approximately 77 percent of these households are composed of married couples, half of them with children and half without. This is a monochromatic market with little diversity, except for the presence of children.

Socioeconomic

Top Rung is the wealthiest consumer market, representing less than 1 percent of all U.S. households. The median household income of \$185,415 is more than three and one-half times the U.S. median, while the median net worth of \$614,206 is more than five times the national level. Residents' wealth is derived from investments, such as income from interest, dividends, and rental properties, as well as remuneration from management, professional, and sales positions, particularly in the finance, education, legal, and health care fields. The proportion of households receiving self-employment income is twice that of the national level. The population is highly educated: more than 70 percent of residents aged 25 years and older hold a bachelor's or graduate degree.

Residential

The enclaves of the wealthy are dotted throughout major U.S. cities, with higher concentrations located on the East and West coasts. *Top Rung* residents own at least one single-family home, with a median home value approaching \$1,078,501, the highest, by far, of all the Community Tapestry markets. Travel is part of their lives including the highest rate of interstate commuting.

Preferences

Top Rung residents have the purchasing power to indulge any choice. Aside from the obvious investments, such as stocks valued at more than \$75,000, money market accounts and funds, mutual funds, annuities, and life insurance policies valued above \$500,000, they spend money on domestic and foreign travel. They travel frequently and always in style. For home and property upkeep, residents hire professional cleaning and lawn maintenance services, and for home improvement and remodeling work, they hire contractors. This is the top market for owning or leasing a luxury car. Residents favor new imported vehicles, especially convertibles.

Top Rung residents are shoppers. Favorite places to shop are Nordstrom, Macy's, Banana Republic, and Eddie Bauer as well as warehouse/club stores. They also use the Internet to make purchases, especially books, concert or sports tickets, computer hardware, and airline tickets. Laptop computers and cell phones are necessary for them to network and keep up with their busy lives. They own three or more cell phones and generally have two phone lines in their homes.

Top Rung residents are avid readers of newspapers (usually two or more daily), magazines (especially airline, epicurean, business, finance, and fashion), and books (particularly history and biographies). They listen to classical music and jazz as well as all-news, public, sports, all-talk, and news/talk radio. They prefer to watch BBC America, Independent Film Channel, Bravo, the Golf Channel, CNBC, CNN, and MSNBC News on TV.

Residents enjoy going to the theater, attending dance performances, visiting museums, watching foreign films on DVD, and playing backgammon. They are active in their communities, joining charitable organizations, working for political parties or candidates, writing to elected officials, and contributing to PBS. Health conscious, they exercise (do yoga and aerobics, play tennis, ski, ice skate, and snorkel), take vitamins, and buy low-fat food. Their interest in tennis and skiing extends to watching it on TV also.

23 Trendsetters

Segment Code..... 23
Segment Name..... *Trendsetters*
LifeMode Group L4 *Solo Acts*
Urbanization Group..... U1 *Principal Urban Centers I*



Demographic

On the cutting edge of urban style, *Trendsetters* residents are young, diverse, and mobile. Singles who live alone or share rent with a roommate are the typical household types, accounting for more than half of the households. Families comprise the remainder. With a median age of 35.3 years, this is a slightly younger market compared to that of the United States. Ethnically diverse, 13 percent of the residents are Asian and 24 percent are Hispanic; both percentages are more than three times the U.S. values.

Socioeconomic

Trendsetters residents are educated professionals who have substantive jobs. The median household income is \$62,036. Twenty-six percent of residents aged 25 years and older have a bachelor's degree, 16 percent hold a graduate degree, and another 27 percent have attended college. Although wages account for most of the household income, other sources of revenue include interest and dividends, income from rental properties, and self-employment ventures. The median net worth for this market is \$109,338.

Residential

Trendsetters neighborhoods are located primarily on the West Coast; however, one-fourth of the households are found in the Northeast. Eschewing homeowner responsibilities, approximately 68 percent of householders rent in upscale, multiunit settlements in older city districts. The average gross rent is relatively high, at approximately \$884 per month. Single-family homes and townhomes comprise the rest of the housing market. The median home value for owner-occupied dwellings is \$556,482. Most of the housing units were built prior to 1960. Because public transportation is readily available, 18 percent of households do not own a vehicle.

Preferences

Trendsetters residents are spenders; they purchase items in stores, online, and by phone. Fashion-conscious residents shop for essentials at discount and warehouse stores but buy branded apparel at stores such as Banana Republic, Nordstrom, Macy's, and Gap. Ordering items from QVC is popular also. Residents read fashion and epicurean magazines to stay current with trends. They listen to classical and alternative music as well as public and all-news programs on the radio. Politically, *Trendsetters* is a liberal market.

To keep in touch, *Trendsetters* residents are never far from their electronic gadgets and computers. They own the latest and greatest laptop computers, cell phones, and MP3 players. They are frequently on the Internet, researching real estate or investment information or making purchases, especially airline tickets. Many young residents are already preparing for retirement by investing heavily in stocks.

Health-conscious *Trendsetters* residents take vitamins and exercise regularly. They play tennis, volleyball, baseball, and golf and ice skate, snorkel, and practice yoga. Leisure activities include traveling, going to theme parks and the movies, attending rock concerts, watching science fiction or foreign movies on DVD, and reading biographies. Residents enjoy watching soccer on TV as well as syndicated shows such as *Access Hollywood* and *Seinfeld*. Favorite cable stations are Independent Film Channel, Style, and MTV.

03 Connoisseurs

Segment Code..... 03
Segment Name..... *Connoisseurs*
LifeMode Group L1 *High Society*
Urbanization Group..... U3 *Metro Cities I*



Demographic

The *Connoisseurs* segment is a somewhat older market, with a median age of 46.9 years. Seventy percent of these households are married-couple families. Although residents appear closer to retirement than child-rearing age, 30 percent of the households consist of married couples with children living at home. Ethnic diversity is negligible.

Socioeconomic

With a median net worth of \$396,030, the *Connoisseurs* market is second only to Tapestry's *Top Rung* segment in affluence. This market is well educated; more than 60 percent of the population aged 25 years and older hold a bachelor's or graduate degree. Employed residents earn wages from high-paying management, professional, and sales jobs. Many are self-employed, at a rate twice that of the national average. They have a median household income of \$123,255, and their salaries are supplemented with income from interest, dividends, and rental properties.

Residential

Connoisseurs neighborhoods tend to be older bastions of affluence, where the median home value is \$772,844, and growth is slow. Most homes are single-family structures built before 1970. Ninety-one percent of these householders own their homes. *Connoisseurs* neighborhoods are located in densely populated city centers and in established affluent areas. Commuting is a way of life; compared to the U.S. average, more *Connoisseurs* residents live in a different state from where they work.

Preferences

Connoisseurs residents may be second to *Top Rung* in wealth, but they rank highest for conspicuous consumption. Their homes include the latest upgrades. However, these residents are not do-it-yourselfers. They hire contractors for their home improvement and remodeling projects, lawn care and landscaping services for property upkeep, and professional household cleaning services. Households have burglar alarms for home security, and residents belong to AAA auto club for vehicle security. *Connoisseurs* residents will grind their own coffee beans, typically the Starbucks brand. It's not surprising that this is one of the top markets for owning or leasing a luxury car or convertible with a navigational system.

Exercise is a priority for these residents: they work out weekly at a club or other facility, ski, play golf, snorkel, play tennis, do yoga, and jog. They also spend money on the latest sports attire to look good while exercising. *Connoisseurs* residents enjoy foreign and domestic travel as well as going to museums, the theater, and dance performances. They use the Internet to make travel plans, track and trade their investments, and shop online. They order from the L.L. Bean and Lands' End catalogs and shop at Nordstrom, Eddie Bauer, Macy's, and Banana Republic.

Connoisseurs residents are well read. They prefer reading history books, mysteries, and biographies and read two or more daily newspapers. Preferred magazine types are airline, epicurean, travel, finance, and business. Residents listen to classical music as well as public, all-news, news/talk, all-talk, and sports radio. Active in their communities, they work for political candidates or parties, write or visit elected officials, and participate in local civic issues.

IDENTIFICATION AND ANALYSIS OF TARGET DEMOGRAPHIC

The reasons for wanting to live in the Market Area lie in area's greatest strengths – convenient location to multiple job centers and amenities, great schools, and the desire to live in a well established neighborhood. Using this information and the demographic information from the previous section, Viridis Properties identified the most likely demographic attributes of the potential homebuyers. These attributes of the target homebuyer will be incorporated into the design of the homes and the marketing strategy employed to sell the homes. The next section then compares the targeted buyer with the demographics of homebuyers that are more and more demanding sustainable design features in their homes.

In a nutshell, the typical buyer of a new home in 22207 is going to be a married couple with 2-3 school aged children, the couple is likely to be older than average, be well educated, and have a very high income and net worth. Although most of these attributes are very similar to the existing demographics of the residents of the Market Area, the typical buyer is likely to represent the more extreme end of the demographic scale. This is likely to be particularly the case with regards to income with the buyer likely to be substantially wealthier than the average resident of the Market Area that cannot afford to purchase a new home in the area.

Family Composition – Like much of the Market Area, the typical buyer is likely to be a married couple with children. Families tend to be wealthier than non-family households, thereby making them more able to afford the high cost of living associated with the 22207 Market Area. Part of the reason for this is the high number of dual-income households. The typical buyer is likely to have both parents working professional jobs. Additionally, these jobs are going to be located in downtown Washington or in Tysons Corner. The area is easily accessible to both areas and may represent a compromise location as it is approximately equidistant between them.

The couple is likely to have 2-3 school aged children and will be particularly attracted to living in the Market Area because of the quality of the public schools. Those families who may be upgrading to a new house from within the market area may be attracted to a particular area based on their desire to keep their children at their current schools.

Age – The average age of the typical buyer is likely to be in their late thirties to early fifties. This age bracket represents the peak earning years of many professionals, thereby

enabling their ability to afford a new home in the Market Area. Younger age groups are not likely to be able to afford to live the market area due to lower incomes and lower net worths. Conversely, older couples, while they may have the wealth and income to afford a new home, are likely to be seeking a change in their lifestyle. Their children have moved out of the house so they are not attracted by school quality and may be looking to sell their single family home and retire out of the area or downsize to a condominium that doesn't require the maintenance of a single family home.

Wealth and Income – With the average new home price at \$1.6 million in 2007, the minimum requirements for entry in this market are high income and high net worth. In fact, the average household income of the Market Area, although high at approximately \$167,000, puts the price of a new home out of reach for most families. Families, which on average have a higher income than non-family households, will be more able to afford a new home. However, income is only part of the equation used in determining affordability. The typical buyer of a new home is not likely to be a first time homebuyer. In fact, given their expected age, this will likely be their third home purchase or more. Using an average age of 45 and assuming they bought their first house at age 30, that amounts to 15 years of homeownership. Through a combination of mortgage amortization and price appreciation, most buyers are likely to have substantial equity in their current homes that they can apply toward the purchase of a new home. While the recent correction in housing prices eroded a portion of that equity, there is likely a substantial amount of wealth still tied up in their current house.

Consider an example where a family purchased a median value home in 22207 in 2000 for \$347,000.¹ To purchase this house, they put down 20% cash and obtained a mortgage loan the rest. Then, at the end of 2007, they sold the house for the median price of \$830,000.² Through a combination of mortgage curtailments and home price appreciation, they will have accumulated just over \$500,000 in equity that could be turned over as a down payment on a future home – a 33% deposit on a \$1.5 million house. This example covers only a seven year period. Longer homeownership is likely to result in even greater equity.

Education – Not surprisingly given their income, the typical buyer is likely to be extremely well educated. With more than 70% of the population of the Market Area in

¹ 2000 US Census

² MRIS

2000 having a bachelors degree or higher, one can expect this percentage to grow even higher in the future as prices of homes in the Market Area continue to increase and the population begins to turnover. It is almost a certainty that both parents will have a college education and a high percentage that one or both will have a graduate degree.

THE GREEN HOMEBUYER

The target buyer will also be attracted to the Viridis's homes because of the incorporation of green building techniques in their design and construction. Given the infancy of green homes, there is not a substantial amount of research about the demographics of the green homebuyer. However, given the attention paid to the environment by the media, more attention is being focused on green homes. To a potential homebuyer, factors such as the quality of the public schools and proximity to employment and amenities remain of paramount importance. However, these factors are relatively consistent throughout the Market Area and compare very well with surrounding areas. The homes that Viridis is looking to build will not be in substantial competition with homes in other market areas. Residents looking to buy in the Market Area will be drawn to its many strengths. The objective of Viridis Properties is to convince them to purchase a Viridis built home as opposed to another new home located down the street built by a competing builder. There appears to be substantial demand for green buildings in the Market Area that is currently not being met by other homebuilders.

Several companies have produced recent research on the potential for the green home market. McGraw-Hill Construction, in conjunction with NAHB, has published several reports based on surveys of homebuyers that seek to identify the characteristics of the green homebuyer as well as measure the potential market for the green home market. McGraw-Hill summarizes the typical green homebuyer as a married couple, highly educated (with almost 80% having college degrees), wealthier than the average household, and with an average age of 45 years – a description very similar to the target demographic. The same report also identified women as much more likely than men to preferring green homes.¹

McGraw-Hill also estimates the market potential for green homes. In 2005, it stated that the total market of “true” green homes was approximately \$2 billion, or just 2% of all new homes built in the United States. By 2010, however, they estimate that the green home market has the potential to be a \$19 to \$38 billion market, an increase to between 5% and 10% of new homes built, a substantial increase over the current market size. The main reasons cited for this exceptional growth are high rates of satisfaction among green

¹ PowerPoint Presentation by Harvey M. Bernstein, McGraw-Hill Construction, “The Preferences of Green Home Buyers: The Survey Says.” 2007.

homeowners and their propensity to recommend green homes to others, rising energy costs, and the increasing availability of green homes.²

Robert Charles Lesser & Co. (RCLCo) is another research firm attempting to identify the desires of green homebuyers and to create a profile of a typical green homebuyer. In the company's report "Measuring the Market for Green Residential Development" published in January 2008, RCLCo determined through a survey that 36.4% of potential homebuyers identify green building techniques as the primary decision making factor in the purchase of their next home. The report goes on to break down the green homebuyers into three buyer profiles based on their motivations in desiring green features. These three groups – Forest Greens, Greenback Greens and Healthy Greens – each desire green building techniques but for various reasons. Each group represents a different slice of the green building and understanding the motivations of these groups and the potential market size is important in designing and marketing green homes.

Forest Greens – This group is motivated to buy a green home because it is the right thing to do to conserve resources and protect the environment. They are willing to pay extra for green features without any expectation of an economic payback over time. Forest Greens are well educated with over a substantial percentage having graduate degrees. One problem with this group is its size. Nationally, only 6.1% of potential buyers are classified as Forest Greens and another 17.9% can be classified as potential Forest Greens leaving 76% of homebuyers not willing to pay extra to protect the environment. RCLCo points out, however, that nearly 75% of buyers are not aware that their homes have an adverse impact on the environment. If this "education gap" can be filled, this market may grow larger.

Greenback Greens – The Greenback Greens are motivated to buy green homes if the additional investment can be justified through reduced operating costs over time. Additionally, they typically demand that the pay-back period for their investment be five years or less. Greenback Greens tend to be older than the general population, less wealthy and have smaller households. According to RCLCo, this segment represents the largest pool of green buyers.

² Residential Green Building SmartMarket Report. McGraw-Hill Construction and National Association of Homebuilders. 2006 Residential Green Building Issue.

Healthy Greens – The final segment of green homebuyers is motivated to buy green homes if they perceive a health benefit by doing so. Like Forest Greens, they are less concerned about the economic payback. This group is very well educated and wealthy. Additionally, the desire to spend on health and wellness is cross-generational and is not restricted to a specific age group. While only 8.5% of potential homebuyers require a green home for its health benefits, an additional 33.5% are concerned about their health and willing to spend money to improve it. This data is supported with information from McGraw-Hill Construction which concluded through a survey that concern for the health of their families is one of the most important factors when considering the purchase of a green home.³

Despite the size of the potential market for those homebuyers driven by the economic payback associated with green buildings (Greenback Greens), it is folly to market green homes on this basis. The energy savings associated with green homes, while it may be substantial, is not likely to produce a measurable return on investment in five years. Additionally, because this group is less wealthy than the other green homebuyer segments, that they are not as prevalent in the Market Area as RCLCo's national survey indicates.

Further, a brief analysis of what is probably the most established market for green oriented consumers – hybrid cars – indicates a willingness on behalf of buyers to pay extra for green technologies without any realistic expectation of return on investment. By most accounts, the savings associated with owning a hybrid car (lower fuel costs) does not economically justify the thousands of extra dollars that buyers pay to purchase hybrid cars. In fact, a recent study of Toyota Prius owners conducted by Topline Strategy Group indicates that only 16% of Prius owners were motivated primarily by a desire to save money on fuel. Meanwhile, 66% of Prius owners indicated that their primary motivation was that they wanted an environmentally friendly car.⁴ Applying RCLCo's segmentation to the hybrid car market would indicate that most hybrid buyers are Forest Greens, motivated to do the right thing to protect the environment.

One of the primary differences between the hybrid car market and the market for green homes is consumer education. It is very well established that cars pollute the

³ McGraw Hill Construction Press Release, "Ownership of "Green" Homes Expected to Increase Rapidly, According to new Report from McGraw Hill Construction." October 22, 2007.

⁴ "Why People Really Buy Hybrids." Jonathan Klein, Topline Strategy Group.

environment. What is less established, according to RCLCo's research is the understanding that people's homes are also significant polluters. While building use almost 50% of the energy and produce 50% of the emissions in the US each year, 70% of respondents in RCLCo's report believed their homes had no adverse impact on the environment. The hybrid car market demonstrates a willingness by consumers to pay for green without any expectation of payback and points to the potential of homebuyers to behave similarly. This education gap evidenced by RCLCo's research is a significant challenge and also represents a massive opportunity for marketing green homes. This exact sentiment was reiterated by McGraw Hill Construction which identified education and awareness of green homes as the most important obstacles. McGraw Hill indicates that most homeowners learned about green homes through word of mouth, not through media or advertisements.⁵

The greatest opportunity for marketing green homes lies in targeting the Forest Greens and the Healthy Greens, those that are motivated by doing the right thing and those motivated by living in a healthier home. While RCLCo's research indicates that these are relatively small segments of the overall home buying market, for multiple reasons they likely represent a much larger portion of the market in the 22207 Market Area. First, both Forest Greens and Healthy Greens are well educated and wealthy, just like the residents of the Market Area. So while these segments may account for only a small portion of the overall market of potential home buyers, they are likely to account for a higher proportion when the population is comprised almost entirely of wealthy well educated adults. The prevalence of these demographic characteristics are further supported by reference to the ESRI Community Tapestry segments most prevalent in the Market Area. The characteristics of two of the segments – Top Rung and Connoisseurs – are very similar to the characteristics of both Forest Greens and Healthy Greens. All are described as wealthy and well educated, for example. Additionally, both of the above referenced Community Tapestry segments are described as health conscious – a trait shared with Healthy Greens.

Second, the political leanings of the residents in the Market Area indicate that a potentially much larger percentage of residents are real or at least potential Forest Greens. A 2008 report by Porter Novelli and George Mason University looked at the

⁵ McGraw Hill Construction Press Release, "Ownership of "Green" Homes Expected to Increase Rapidly, According to new Report from McGraw Hill Construction." October 22, 2007

relationship between political affiliation and beliefs and actions about global warming.⁶ Respondents were asked a series of questions about their thinking and actions on global warming as well as their typical voting patterns. The results of many of these questions are found in the table below:

	Always Republican	Usually Republican	Usually Democrat	Always Democrat
The Danger of Global Warming				
Percent Agreement with each Assertion				
Global warming is a very serious problem.	36	41	77	78
Global warming is a threat to my future well-being and safety.	26	33	62	61
Global warming is a threat to future generations' well-being and safety.	34	46	75	71
Global warming is a threat to all life on the planet.	33	39	71	73
When I think about global warming, I feel afraid of what might happen.	24	25	56	58
Ability to Respond to the Danger				
I can take actions that will help reduce global warming.	27	36	55	51
The actions of a single person like me won't make any difference in reducing global warming.	28	20	10	12
There is nothing we can do to stop global warming.	24	16	7	11
The actions we take can prevent global warming from becoming more severe.	34	44	70	67
Source: Porter Novelli and George Mason University				

This table very clearly indicates the disparity that exists between Republicans and Democrats when it comes to their views on global warming and what they believe they can do to address the problem. Those usually or always voting for Democrats are much more concerned about the impacts of global warming and believe they can take actions to lessen its impact than those who usually or always vote Republican.

Combining the information shown in the preceding table with the following table leads to a conclusion about the about the size of real or potential Forest Greens in the Market Area. The table below summarizes the results of the last two presidential elections for all

⁶ "What Are Americans Thinking and Doing About Global Warming?: Results of a National Household Survey." Porter Novelli and the Center of Excellence in Climate Change Communication Research at George Mason University. 2008.

of the eight vote precincts that comprise the Market Area showing a very strong preference for the Democratic candidates over the Republican candidates.

Presidential Election Results* Market Area - 22207				
Precinct	2004		2000	
	Kerry/ Edwards	Bush/ Cheney	Gore/ Lieberman	Bush/ Cheney
007 Cherrydale	1,222	558	1,028	569
020 Thrifton	1,126	784	950	874
024 Woodlawn	1,702	644	1,500	683
033 Rock Spring	1,227	768	1,004	874
034 Yorktown	1,152	589	1,049	642
035 Madison	1,228	990	1,031	1,066
036 Marshall	1,418	710	1,182	744
037 Nottingham	1,135	579	958	658
Total	10,210	5,622	8,702	6,110
Percent	64.5%	35.5%	58.7%	41.3%
National Percentage**				
	48.8%	51.2%	50.3%	49.7%
* These results do not include third party or independent candidates.				
** Popular vote only.				

In the last two presidential elections, voters in the Market Area voted Democratic over Republican by a very large margin. While it is not reasonable to conclude that their primary reason for voting Democratic was because of the candidates stand on the environment and global warming, this table combined with the results of Porter Novelli and George Mason's study make it likely that the residents of the Market Area are concerned about the environment and willing to take actions to address the problem including, potentially, buying a green home.

There is also reason to believe that the education gap referred to by RCLCo and McGraw Hill Construction is less substantial in the Market Area than in other parts of the country. First, the population of the Market Area is very well educated and likely more informed on many issues than less educated people. Second, the Arlington County Board, whose members are elected at-large by the residents of the county, have taken significant steps to address the problems facing the environment. In addition to developing a green building program (discussed in detail in a subsequent section), the county has adopted the Fresh AIRE program (Arlington Initiative to Reduce Emissions) which seeks to reduce the total emissions the county generates by 10% below 2000 levels by 2012. One of the key components of this program is an advertising and public relations campaign to

educate the public about what they can do to reduce emissions. This campaign plus such items as the reconstruction of Yorktown High School as a LEED Silver building will continue to remind and educate the residents of Arlington County of the importance of green issues and should only increase the demand for green homes.

The demand for green homes is, at best very difficult to quantify. This is largely the result of the infancy of the green homebuilding movement. While there is little historical information to use to quantify the demand, the above analysis demonstrates that incorporating green building techniques is a practice that will very likely increase the demand for the homes we build. What's more, there is strong evidence to suggest that a large percentage of potential homebuyers are willing to pay a premium for green homes even without any expectation of payback for these items. The preferences for green building techniques and the perceived benefits to the buyer will be a critical component in developing a marketing strategy for the Company's homes. It is also important to keep in mind that green building techniques are only a single component going into the design and construction of the homes. The Company will not, for example, design and build homes that while very green, are otherwise poorly designed for the lifestyle demands of the target market.

DESIGN PARAMETERS

The logical starting point to setting the design parameters for all new homes to be built by Viridis is the drafting of a broad vision from which all decisions relating to design should subsequently flow. Any decision with regard to design, then, must be analyzed in the context of this vision and evaluated on how it will enhance or detract from this vision. This Design Vision Statement must be used frequently to constantly remind all participants of the design team what the objectives are. Specific design parameters based on the Design Vision Statement are detailed at the end of this section. The following is the Design Vision Statement for the company:

To design homes of the highest quality that meet the needs and preferences of the target buyer through functional and efficient design while accomplishing the following:

- (i) enhancing value by incorporating sustainable design and green building principles, and;**
- (ii) complementing and enhancing the form and scale of the surrounding neighborhood.**

The most important aspect to remember in creating a design for new homes is the lifestyle of the target market. This is made a bit more difficult by the fact that Viridis is intending to build speculatively and not for a particular user with definitive necessities and desires. However, the purpose of identifying the demographics of the target market was to understand their desires and needs so homes can be designed accordingly. Viridis will be designing a home for a well-off, family of four or five likely having two well educated and hard working parents and this will have an impact on numerous items such as the number of bedrooms and the lay-out of the main living areas.

The inclusion of quality is almost a given. As the Company is proposing to build houses that are likely be marketed for well in excess of \$1 million, quality is an essential component. However, during the real estate boom of the past several years, design quality seemed to become less of a focus in new homes. Homebuyers were typically not afforded the luxury of having several houses to choose from and then selecting the house with the highest quality design that best fit their needs and desires. With houses being sold in a few days, buyers often had to make a decision in a matter of hours. As a result, builders got lazy and were distracted from carefully designing the homes.

The main components of quality design are efficiency and functionality. In other words, the efficient use of space and the arrangement of rooms within the house to provide the greatest functional benefit to the users. The efficient use of space, in particular, is important given the Company's focus on green building detailed in the following pages. A large home inherently uses more resources and, while it may contain green building components, it cannot be considered a green building unless occupied by a very large family. The focus on efficiency and functionality, for example, will exclude grand two-story entranceways and two story living rooms found in many of today's new homes. These rooms represent an extremely inefficient use of space and serve no real function to the homeowner. This is not to imply, however, that the Company's homes will be designed strictly for function with no attention to aesthetics. On the contrary, aesthetics are a major component of design quality that make a house attractive and livable. A balanced approach to designing the homes is necessary to ensure both useful and aesthetically pleasing spaces.

Sustainable Design and Green Building Principles

Sustainable design and green building is just now in its infancy in the homebuilding industry. While the commercial real estate industry has embraced sustainable design, it has been slow to catch on in residential construction for several reasons. First, there have been no clear standards for homebuilders to follow. LEED (Leadership in Energy and Environmental Design) has clearly stepped-up as the gold standard for commercial real estate but until recently, did not have a program for single-family homes. Second, the homebuilding industry has been slow to adopt green building techniques because of an uncertainty in both the added cost of going green and the perceived benefit in the eye of the homebuyers. These trends are changing and green building represents an area of significant opportunity for homebuilders in the short-term. In the long-term, however, green building techniques are likely to be a necessity that builders will be forced to adopt to stay competitive in the industry. Those builders that embrace green building techniques early will be at a substantial competitive advantage to those that don't.

The problem of not having a recognized set of standards for green homebuilding is about to be replaced by another problem – having competing sets of standards. In addition to numerous less known organizations that have published green building standards, two large national groups are in the process of finalizing green building standards for homes. These are the United States Green Building Council (USGBC) with their LEED for Homes and the National Association of Homebuilders (NAHB) with their National Green Building Standards (NGBS). While these two groups take a different approach

implementing their standards, they do largely agree on the specific components that determine if a home is green or not. Each of these programs is summarized below.

LEED for Homes – In January 2008, the USGBC introduced its LEED for Homes Green Building Rating System. This rating system is based on a the LEED for Homes pilot program initially introduced in September 2005 and updated in February 2007. There are four levels of certification under LEED – Certified, Silver, Gold, and Platinum – each with more stringent green building requirements than the next. In order to qualify a home under LEED, a builder must join the USGBC, identify a project team and develop a preliminary rating of the home, build the home, and then certify the home as a green building. To reach the various certification levels under LEED, the builder must complete a LEED scorecard and independently certify each item on the scorecard with the number of points determining the certification level. LEED for Homes focuses on eight areas in rating a home with several required items in each category and multiple other options that enable builders to accumulate enough points. A LEED for Homes scorecard is included as **Exhibit 4A**. The eight focus areas are:

- Innovation and Design Process
- Location and Linkages
- Sustainable Site
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Air Quality
- Awareness and Education

National Green Building Standards (NGBS) – Like LEED for Homes, the NAHB’s NGBS approach green building using the “whole house approach” that does not focus on one particular area of a home (e.g. energy efficiency) but rather looks at the implication of each decision involved in designing and constructing the home and its impact on the sustainability of the home. Currently, NGBS is in its second draft which was rolled out in December, 2007. The final standards are being developed jointly with International Code Council (ICC) and are targeted to be certified by the American National Standards Institute (ANSI). The ICC maintains the International Residential Code (IRC), the building code for residential construction adopted by most jurisdictions in the United States including, importantly for Viridis, Arlington County. By making the standards a voluntary component of the IRC, the standards for certification and verification are substantially different than LEED for Homes. Instead of relying solely on multiple

layers of onerous third party inspections and verifications, jurisdictions adopting the NGBS will for the most part incorporate the verification into their inspection and approval process.

NGBS focuses on six areas in determining if a building is green and, if so, how green. Like LEED, NGBS is based on a point system and has several achievement levels – Bronze, Silver, Gold, and Emerald – with the number of points achieved determining the achievement level. To achieve each level, a minimum number of points are required in each of the six categories plus the builder must achieve a certain number of additional points in any of the categories. The six green building categories under the NGBS are:

- Lot Design, Preparation and Development
- Resource Efficiency
- Energy Efficiency
- Water Efficiency
- Indoor Environmental Quality
- Operation, Maintenance and Building Owner Education

A more detailed summary of these guiding principles from NAHB is included as **Exhibit 4B**.

A third program establishing green building standards for homes is the Environmental Protection Agency's (EPA) Energy Star Program. The Energy Star brand is well recognized by the public. The focus of Energy Star is on reducing carbon emissions by promoting energy efficiency in homes. Five components of an energy efficient home are (i) an efficient home envelope, (ii) efficient air distribution throughout the house, (iii) efficient HVAC equipment, (iv) efficient lighting, and (v) efficient appliances. While these are important ingredients of a green home, the Energy Star program does not take a "whole house approach" to green building like LEED for Homes and NGBS and therefore cannot be the only certification program to label a house green. Additionally, both LEED for Homes and NGBS incorporate Energy Star guidelines for energy efficiency into their standards.

LEED or NGBS? – Whereas a few years ago the lack of an accepted set of green building standards made building green homes difficult, there are now two primary sets of standards that a builder must choose from when implementing a green building program. Which one is better? Fortunately, the two standards largely base their

interpretation on what constitutes a green home on the same criteria. The eight criteria for LEED certification and the six criteria under UGBS are very similar. LEED has a certain advantage over UGBS because it is the more recognized brand name associated with green buildings – giving builders an additional marketing tool when selling homes. However, there is a significant cost and administrative burden associated with LEED certification that will hinder its acceptance by the residential building community. LEED certification for commercial buildings is very time consuming and complex, requiring expensive and lengthy verifications. This burden is unlikely to change under LEED for Homes. One builder I spoke with at Studio 26 Homes in Pennsylvania built a LEED Silver home under the LEED for Homes pilot program and finally received his certification 18 months after construction of the home was complete. Fortunately for him, he was building a custom home for a client. This administrative burden is in addition to the direct cost of obtaining LEED certification from the USGBC. The USGBC estimates the cost of obtaining certification may be as much as \$3,000 per home.¹ One of the benefits of certification is using it as a marketing tool when selling the home. Such a lengthy process to obtain LEED certification does not work for a builder marketing speculative homes and most small builders do not have adequate resources to allocate to this process.

NGBS are designed to be objective standards with specific qualitative or quantitative standards that a builder must meet in order to comply. This makes testing and verification easier than LEED. Since time is money, using UGBS appears to be the best way to certify that a home is green. Although there can be no guarantee that Arlington County or other jurisdictions will adopt the standards once they are fully developed, the fact that they are an add-on to the IRC (which Arlington has adopted) and given Arlington's dedication to sustainable design and green building principles make their adoption very likely. The direct cost of obtaining certification from NAHB under the NGBS is \$150 plus approximately \$700 in local verification fees.²

Using the NGBS, Viridis Properties will seek to design and build its first homes to meet the Silver Performance Rating. This requires a total of 406 points. For comparison, Bronze, Gold and Emerald Performance ratings require 222, 558 and 697 points,

¹ Fact Sheet: About LEED for Homes. US Green Building Council.

² Local verification fee estimate from "Homebuilders Launch National Green Building Program." Michigan Business Review. February 14, 2008.

respectively. As the company increases its experience and knowledge of designing and building green homes, the Company may look at building homes rated Gold or Emerald.

Compatibility with Surrounding Neighborhood – Too often in the Market Area of 22207 or in similar older neighborhoods, new homes stick out like a sore thumb. It is as though they were designed in a vacuum and then squeezed onto the lot. They are typically larger and substantially taller than the surrounding homes and architecturally do not complement the existing homes. This detracts from the appeal of these neighborhoods by breaking-up the aesthetic flow of a neighborhood.

Viridis's homes will be designed to be compatible with the existing homes and structures surrounding the property. The Company will not, however, seek to copy the existing homes. In fact, Viridis's homes to have their own architectural persona. The new homes will be designed with the surroundings in mind and the Company will seek to build to a similar scale as the existing homes and create harmony with its surroundings that enhances the desirability of the neighborhood. By doing so, Viridis's homes will be more desirable for prospective homebuyers, putting the Company's homes at a competitive advantage that may result in a price premium or reduced time on the market.

Specific Design Parameters

The following parameters will be incorporated into the design of the homes for this and future projects. While this list is by no means exhaustive, it is meant to be used by the architect when designing the home. For many items, the exact specifications or performance requirements are found in the NGBS.

Site Design and Landscaping Parameters

- Incorporate shared driveways or alleys to reduce impermeable surface area where possible,
- Utilize cluster development techniques to preserve open space,
- Orient buildings to take advantage of southern exposure to increase solar heat gain during winter months,
- Preserve existing trees and vegetation where possible,
- Orient the front of the houses toward the streets,
- Where feasible, use only rear or side loaded garages (two car) that do not front directly onto the streets,
- Use only native species in landscaping,
- Employ a low-volume irrigation system for landscaping.

Interior Layout/Floor Plan Parameters

- Finished square footage should be approximately 3,000 square feet,
- Four or five bedrooms (including master bedroom),
- One den on main level with potential to convert other space to a second den to accommodate two working adults,
- Nine foot ceilings on main living level and eight foot ceilings elsewhere,
- Design an open floor plan to accommodate informal living,
 - Eliminate formal living room and formal dining room,
 - Design a large kitchen that opens to other living spaces provides a space for family and friends to congregate (e.g. kitchen island with room for seating). The kitchen is a natural gathering space for family and friends and the design should encourage this,
- Powder room on main living level and in basement (option for full bath in basement),
- Separate master bathroom,
 - No jacuzzi/whirlpool tub in order to save space and eliminate waste
- Two other full bathrooms on upper level,
- Partially finished basement with open floor plan,
- No two story foyer or family room.

Green Specific Features and Finishes

- Energy Star appliances (refrigerator, dishwasher and front loading washing machine),
- Energy efficient windows (double pane, low-e glazing), wood or wood-clad,
- Tankless hot water heater,
- 50% of hard wired lighting fixtures to be Energy Star certified,
- Sprayed foam insulation to enhance thermal envelope performance,
- Use of engineered wood products,
- Appropriate sizing of HVAC equipment relative to house size to enhance performance and efficiency,
- Use of bamboo, cork or hardwood from certified sustainable forest for main living level floors,
- Use of recycled material for all outdoor decks, if applicable,
- Use low volatile organic compound (VOC) paint and carpet,
- Alternative countertop material to granite,

- Use of permeable materials for outdoor surfaces, where feasible.

Other Specifications

- All homes to have front porches where appropriate,
- Use combination of brick water table and cementitious siding material above on exterior,
- Roof overhangs to be designed in accordance with NGBS to control light and moisture.



for Homes

LEED for Homes Simplified Project Checklist

Builder Name:
Project Team Leader (if different):
Home Address (Street/City/State):

Project Description:

Adjusted Certification Thresholds

Building type: **Single detached**

Project type: **Custom**

Certified: **45.0**

Gold: **75.0**

of bedrooms: **0**

Floor area: **0**

Silver: **60.0**

Platinum: **90.0**

Project Point Total: **0**

ID: **0**

SS: **0**

EA: **0**

EQ: **0**

Certification Level: **Not Certified**

LL: **0**

WE: **0**

MR: **0**

AE: **0**

date last updated :
last updated by :

Max Points
Available

Project
Points

Innovation and Design Process (ID)			(No Minimum Points Required)		Y / Pts	No	Maybe
1. Integrated Project Planning	1.1	Preliminary Rating		Prerequisite			
	1.2	Integrated Project Team		1			
	1.3	Professional Credentialed with Respect to LEED for Homes		1			
	1.4	Design Charrette		1			
	1.5	Building Orientation for Solar Design		1			
2. Durability Management Process	2.1	Durability Planning		Prerequisite			
	2.2	Durability Management		Prerequisite			
	2.3	Third-Party Durability Management Verification		3			
3. Innovative or Regional Design	3.1	Innovation #1		1			
	3.2	Innovation #2		1			
	3.3	Innovation #3		1			
	3.4	Innovation #4		1			
Sub-Total for ID Category:				11	0		
Location and Linkages (LL)			(No Minimum Points Required)	OR	Y / Pts	No	Maybe
1. LEED ND	1	LEED for Neighborhood Development	LL 2-6	10			
2. Site Selection	2	Site Selection		2			
3. Preferred Locations	3.1	Edge Development		1			
	3.2	Infill	LL 3.1	2			
	3.3	Previously Developed		1			
4. Infrastructure	4	Existing Infrastructure		1			
5. Community Resources/ Transit	5.1	Basic Community Resources / Transit		1			
	5.2	Extensive Community Resources / Transit	LL 5.1, 5.3	2			
	5.3	Outstanding Community Resources / Transit	LL 5.1, 5.2	3			
6. Access to Open Space	6	Access to Open Space		1			
Sub-Total for LL Category:				10	0		
Sustainable Sites (SS)			(Minimum of 5 SS Points Required)	OR	Y / Pts	No	Maybe
1. Site Stewardship	1.1	Erosion Controls During Construction		Prerequisite			
	1.2	Minimize Disturbed Area of Site		1			
2. Landscaping	2.1	No Invasive Plants		Prerequisite			
	2.2	Basic Landscape Design	SS 2.5	2			
	2.3	Limit Conventional Turf	SS 2.5	3			
	2.4	Drought Tolerant Plants	SS 2.5	2			
	2.5	Reduce Overall Irrigation Demand by at Least 20%		6			
3. Local Heat Island Effects	3	Reduce Local Heat Island Effects		1			
4. Surface Water Management	4.1	Permeable Lot		4			
	4.2	Permanent Erosion Controls		1			
	4.3	Management of Run-off from Roof		2			
5. Nontoxic Pest Control	5	Pest Control Alternatives		2			
6. Compact Development	6.1	Moderate Density		2			
	6.2	High Density	SS 6.1, 6.3	3			
	6.3	Very High Density	SS 6.1, 6.2	4			

	2.2	Third Party Inspection	WE 2.3	1				
	2.3	Reduce Overall Irrigation Demand by at Least 45%		4				
3. Indoor Water Use	3.1	High-Efficiency Fixtures and Fittings		3				
	3.2	Very High Efficiency Fixtures and Fittings		6				
Sub-Total for WE Category:				15	0			
Energy and Atmosphere (EA)		(Minimum of 0 EA Points Required)		OR	Y / Pts	No	Maybe	
1. Optimize Energy Performance	1.1	Performance of ENERGY STAR for Homes	Prerequisite					
	1.2	Exceptional Energy Performance	34	0				
7. Water Heating	7.1	Efficient Hot Water Distribution	2					
	7.2	Pipe Insulation	1					
11. Residential Refrigerant Management	11.1	Refrigerant Charge Test	Prerequisite					
	11.2	Appropriate HVAC Refrigerants	1					
Sub-Total for EA Category:				38	0			
Materials and Resources (MR)		(Minimum of 2 MR Points Required)		OR	Y / Pts	No	Maybe	
1. Material-Efficient Framing	1.1	Framing Order Waste Factor Limit	Prerequisite					
	1.2	Detailed Framing Documents	MR 1.5	1				
	1.3	Detailed Cut List and Lumber Order	MR 1.5	1				
	1.4	Framing Efficiencies	MR 1.5	3				
	1.5	Off-site Fabrication	4					
2. Environmentally Preferable Products	2.1	FSC Certified Tropical Wood	Prerequisite					
	2.2	Environmentally Preferable Products	8					
3. Waste Management	3.1	Construction Waste Management Planning	Prerequisite					
	3.2	Construction Waste Reduction	3					
Sub-Total for MR Category:				16	0			
Indoor Environmental Quality (EQ)		(Minimum of 6 EQ Points Required)		OR	Y / Pts	No	Maybe	
1. ENERGY STAR with IAP	1	ENERGY STAR with Indoor Air Package	13					
2. Combustion Venting	2.1	Basic Combustion Venting Measures	EQ 1	Prerequisite				
	2.2	Enhanced Combustion Venting Measures	EQ 1	2				
3. Moisture Control	3	Moisture Load Control	EQ 1	1				
4. Outdoor Air Ventilation	4.1	Basic Outdoor Air Ventilation	EQ 1	Prerequisite				
	4.2	Enhanced Outdoor Air Ventilation		2				
	4.3	Third-Party Performance Testing	EQ 1	1				
5. Local Exhaust	5.1	Basic Local Exhaust	EQ 1	Prerequisite				
	5.2	Enhanced Local Exhaust		1				
	5.3	Third-Party Performance Testing		1				
6. Distribution of Space Heating and Cooling	6.1	Room-by-Room Load Calculations	EQ 1	Prerequisite				
	6.2	Return Air Flow / Room by Room Controls	EQ 1	1				
	6.3	Third-Party Performance Test / Multiple Zones	EQ 1	2				
7. Air Filtering	7.1	Good Filters	EQ 1	Prerequisite				
	7.2	Better Filters		1				
	7.3	Best Filters	EQ 7.2	2				
8. Contaminant Control	8.1	Indoor Contaminant Control during Construction	EQ 1	1				
	8.2	Indoor Contaminant Control		2				
	8.3	Preoccupancy Flush	EQ 1	1				
9. Radon Protection	9.1	Radon-Resistant Construction in High-Risk Areas	EQ 1	Prerequisite				
	9.2	Radon-Resistant Construction in Moderate-Risk Areas	EQ 1	1				
10. Garage Pollutant Protection	10.1	No HVAC in Garage	EQ 1	Prerequisite				
	10.2	Minimize Pollutants from Garage	EQ 1	2				
	10.3	Exhaust Fan in Garage	EQ 1	1				
	10.4	Detached Garage or No Garage	EQ 1, 10.2, 10	3				
Sub-Total for EQ Category:				21	0			
Awareness and Education (AE)		(Minimum of 0 AE Points Required)			Y / Pts	No	Maybe	
1. Education of the Homeowner or Tenant	1.1	Basic Operations Training	Prerequisite					
	1.2	Enhanced Training	1					
	1.3	Public Awareness	1					
2. Education of Building Manager	2	Education of Building Manager	1					
Sub-Total for AE Category:				3	0			
LEED for Homes Point Totals:				136	0			
(Certification level)						Not Certified		

Energy and Atmosphere (EA)			(No Minimum Points Required)	OR	Y / Pts No Maybe		
2. Insulation	2.1	Basic Insulation		Prerequisite			
	2.2	Enhanced Insulation		2			
3. Air Infiltration	3.1	Reduced Envelope Leakage		Prerequisite			
	3.2	Greatly Reduced Envelope Leakage		2			
	3.3	Minimal Envelope Leakage	EA 3.2	3			
4. Windows	4.1	Good Windows		Prerequisite			
	4.2	Enhanced Windows		2			
	4.3	Exceptional Windows	EA 4.2	3			
5. Heating and Cooling Distribution System	5.1	Reduced Distribution Losses		Prerequisite			
	5.2	Greatly Reduced Distribution Losses		2			
	5.3	Minimal Distribution Losses	EA 5.2	3			
6. Space Heating and Cooling Equipment	6.1	Good HVAC Design and Installation		Prerequisite			
	6.2	High-Efficiency HVAC		2			
	6.3	Very High Efficiency HVAC	EA 6.2	4			
7. Water Heating	7.1	Efficient Hot Water Distribution		2			
	7.2	Pipe Insulation		1			
	7.3	Efficient Domestic Hot Water Equipment		3			
8. Lighting	8.1	ENERGY STAR Lights		Prerequisite			
	8.2	Improved Lighting		2			
	8.3	Advanced Lighting Package	EA 8.2	3			
9. Appliances	9.1	High-Efficiency Appliances		2			
	9.2	Water-Efficient Clothes Washer		1			
10. Renewable Energy	10	Renewable Energy System		10			
11. Residential Refrigerant Management	11.1	Refrigerant Charge Test		Prerequisite			
	11.2	Appropriate HVAC Refrigerants		1			
Sub-Total for EA Category:				38		0	

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been met for the indicated credits and will, if audited, provide the necessary supporting documents.

Project Team Leader
Signature

Company
Date

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

Green Rater's Name
Signature

Company
Date

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

Provider's Name
Signature

Company
Date

Excerpt from “NAHB Model Green Home Building Guidelines”. National Association of Homebuilders, 2006.

Guiding Principle—LOT DESIGN, PREPARATION, AND DEVELOPMENT

Resource-efficient site design and development practices help reduce the environmental impacts and improve the energy performance of new housing. For instance, site design principles such as saving trees, constructing onsite storm water retention/infiltration features, and orienting houses to maximize passive solar heating and cooling are basic processes used in the design and construction of green homes.

Guiding Principle—RESOURCE EFFICIENCY

Most successful green homes started with the consideration of the environment at the design phase—the time at which material selection occurs. Creating resource efficient designs and using resource efficient materials can maximize function while optimizing the use of natural resources. For instance, engineered wood products can help optimize resources by using materials in which more than 50% more of the log is converted into structural lumber than conventional dimensional lumber.

Resource efficiency is also about reducing job-site waste. Invariably, there are leftover materials from the construction process. Developing and implementing a construction waste management plan helps to reduce the quantity of landfill material. The average single family home in the United States, at 2,320 ft² (NAHB, 2003), is estimated to generate between 6,960 and 12,064 lbs. of construction waste. Thus, by creating an effective construction waste management plan and taking advantage of available recycling facilities and markets for recyclable materials, construction waste can be reduced by at least two-thirds, creating potential cost savings for builders and reducing the burden on landfill space.

Lastly, basing the selection of building materials on their environmental impact can be tricky. For instance, a product might be renewable, but on the other hand it takes a relatively great amount of energy to transport the product to a project's job site. One way to compare products is to look at a product's or a home's life-cycle environmental impacts through a process called life-cycle analysis (LCA). An LCA of a building product covers its environmental impacts “cradle to grave” through six basic steps:

1) Raw material acquisition, 2) Product manufacturing process, 3) Home building process, 4) Home maintenance and operation, 5) Home demolition, and 6) Product reuse, recycling, or disposal. There are numerous reasons why building products are not commonly selected via LCAs. One of the issues is the availability of data— there is a lack of data to feed into tools that allow for an LCA on a product or system.

One such tool created by the National Institute of Standards and Technology (NIST) is the Building for Environmental and Economic Sustainability (BEES) software program. BEES has 10 impact categories: acid rain, ecological toxicity, eutrophication, global warming, human toxicity, indoor air quality, ozone depletion, resource depletion, smog, and solid waste. Since information is not available to conduct full LCAs on all available building products, we have instead included an LCA mind-set in creating the list of line items in the Resource Efficiency section. Our hope is that in the future the prescriptive line items in the guidelines will eventually be replaced with a full LCA approach for the home as a system and the components therein.

Guiding Principle—ENERGY EFFICIENCY

Energy consumption has far-reaching environmental impacts: from the mining of fossil-fuel energy sources to the environmental emissions from burning non-renewable energy sources. And each home consumes energy year after year, meaning that the environmental impacts associated with that use accrue over time. Therefore, energy efficiency is weighted heavily in a green building program.

Energy consumption occurs not only during the operation of a home but also during the construction of a home and, indirectly, in the production of the materials that go into the home. Although the energy used to heat and cool a home over its life far outweighs that to manufacture the materials and construct it, the large number of homes built (currently about 1.85 million per year) renders the energy used during the construction phase significant.

On average, a home built between 1990 and 2001 consumed about 12,800 kWh per year for space and water heating, cooling, and lights and appliances. Where natural gas is used, consumption averages 69,000 cubic feet per household annually. Total energy expenditures during a year cost these homeowners about \$1,600. Energy efficiency improvements that make a home 20% more efficient—a conservative estimate for many green homes—could significantly reduce a homeowner's annual utility expenses.

No matter what the climate, energy efficiency is considered a priority in most existing green building guidelines/ programs. Moreover, as the cost to heat and cool a home becomes more unpredictable, it is advantageous to every homeowner to be “insulated” from inevitable utility bill increases. As with all aspects of these guidelines, the greatest improvements result from a “whole systems” approach. Energy performance does not end with increased R-values, the use of renewable energy, and/or more efficient HVAC equipment. Rather, there needs to be a balance between these features and careful window selection, building envelope air sealing, duct sealing, and proper placement of air and vapor barriers from foundation to attic to create a truly high-performance, energy efficient home that is less expensive to operate and more comfortable to live in than a conventionally constructed home.

Guiding Principle—WATER EFFICIENCY

The mean per capita indoor daily water use in today's homes is slightly over 64 gallons. Implementing water conservation measures can reduce usage to fewer than 45 gallons. For this reason, green homes are especially welcomed in areas affected by long- and short-term drought conditions.

The importance of water resources is becoming increasingly recognized, especially in the western third of the country. Choices between sending water to growing urban areas and making water available for irrigation highlight the issues surrounding the scarcity of this valuable resource.

Green homes often conserve water both indoors and out. More efficient water delivery systems indoors and native and drought-resistant landscaping choices outdoors can help prevent unnecessary waste of valuable water resources.

Communities can obtain additional benefits when builders effectively use native species in landscaping. Current research and practice have shown that natural processes can be a successful means of filtering and removing contaminants from storm water and wastewater.

Guiding Principle—INDOOR ENVIRONMENTAL QUALITY

Healthy indoor environments attract many people to green building. After energy efficiency, the quality of a home's indoor air is often cited as the most important feature of green homes. Pam Sessions, president of Hedgewood Properties in Atlanta, said during the 2002 National Green Building Conference that the majority of people interested in green homes in the Atlanta market indicated that indoor air quality was their top issue of interest.

An increase in reported allergies and respiratory ailments and the use of chemicals that can off-gas from building materials have contributed to a heightened awareness of the air we breathe inside our homes. Even though there is no authoritative definition of healthy indoor air, there are measures that can mitigate the effects of potential contaminants including controlling the source, diluting the source, and capturing the source through filtration.

Guiding Principle—OPERATION, MAINTENANCE, AND HOMEOWNER EDUCATION

Improper or inadequate maintenance can defeat the designer's and builder's best efforts to create a resource efficient home. For example, homeowners often fail to change air filters regularly or neglect to operate bath and kitchen exhaust fans to remove moist air. Many homeowners are unaware of the indoor environmental quality impact of using common substances in and around the house such as pesticides, fertilizers, and common cleaning agents. ***By providing homeowners with a manual that explains proper operation and maintenance procedures, offers alternatives to toxic cleaning substances and lawn and garden chemicals, and points out water-saving practices, a builder can help assure that the green home that was so carefully built will also be operated in an environmentally responsible manner.***

PROPERTY SELECTION

With a strong understanding of the target market and the design parameters, Viridis must now focus its attention on selecting a site upon which to build the proposed homes. The first step in going about this process is to establish some basic criteria that a property must meet. This criteria shall apply to the first and all subsequent projects. Obviously, the site must be located within the Market Area of 22207. The property must also yield a minimum of three single family detached lots that can be created through a resubdivision of the property to be approved by Arlington County officials. This can be accomplished through the assemblage of multiple properties or the acquisition of a large single property. Resubdividing gives Viridis the opportunity to create value through the land planning process. As opposed to buying a single existing lot that can accommodate a single house, going through a resubdivision enables the project to be laid out so that the houses are situated in the best possible manner to take advantage of the property's strengths while marginalizing its weaknesses.

The potential for a resubdivision, however, must have a reasonable chance of being approved by Arlington County officials. The property must have the potential to either to be resubdivided based on its by-right potential, i.e. in accordance with the current zoning encumbering the property, or have the potential to be rezoned to a zone consistent with the Arlington County General Land Use Plan (GLUP). The GLUP proposes future use and density for all parts of the county. In practice, the GLUP designation is typically consistent with the underlying zoning of the property. This is particularly the case in the single-family home neighborhoods of the county. Nonetheless, the opportunity may exist in certain circumstances to rezone a property and achieve a greater density than permitted by-right.

Yielding three or more homes on one property also creates the opportunity to have a critical mass of homes at one location. This is a benefit both from a marketing and operational standpoint. First, from a marketing perspective, it will add value in the homebuyer's mind since there is a small neighborhood (or perhaps more appropriately a sub-neighborhood) of similar new homes. This inherently results in the homes being more complementary of their neighbors. A single new home in a neighborhood of old homes will stand out regardless of the steps taken to make the home fit in with the scale and form of its surroundings. Second, having three or more homes under construction at one location results in operational efficiencies through the creation of economies of scale. For example, a project superintendent can make better use of his time by building three

houses at one location than by building three houses at multiple locations and constantly having to travel among the various sites.

The Property

Buildable land that meets the above criteria is difficult to find in Arlington County and the Market Area in particular. Not only must the property meet the criteria, but the owner(s) of the property must be convinced to sell the property as well. The first step was looking properties that are currently or recently listed for sale in the Metropolitan Regional Information System (MRIS), a database of property listings and historical data used by real estate brokers in the Washington Area. Not surprisingly, there were few results, but one property in particular stood out. After further investigation of that property and for the reasons stated below, this property was selected as the target acquisition upon which to build the Company's first project.

The property is located 4880 Old Dominion Drive at the intersection of Little Falls Road (the "Property" and together with the proposed improvements, the "Project"). Currently it consists of two parcels each just over 20,000 square feet resulting in a total area for the Property of 40,268 square feet. The Property is improved by a single home – a one story building built in 1949, according to Arlington County records. A copy of a survey showing the property and the current parcels is shown in **Exhibit 6A**. The Property has 175 feet of frontage along Old Dominion and 190 feet of frontage along Little Falls. Photographs of the site are included in **Exhibit 6B** along with a reference guide showing the location where each picture was taken.

Location - The Property is located along Old Dominion Drive just under a mile from the Arlington County border with Fairfax County. Old Dominion Drive (Route 309) runs to the northwest through McLean and into Great Falls and to the southeast it ends into Lee Highway a few miles from the Property. It is a two lane road with moderately heavy traffic – particularly at peak rush hour commuting times. On average, the road carries approximately 16,000 cars per day according the Virginia Department of Transportation.¹ Old Dominion provides easy access to McLean (and on to Tysons Corner) and to the Rosslyn-Ballston Corridor. The intersection of Old Dominion and Little Falls, located at the northwest corner of the Property is a non-signalized intersection with traffic on Little Falls stopping for traffic on Old Dominion. A local

¹ Virginia Department of Transportation (VDOT). 2006 Traffic Counts for Arlington County.

area map with the Property marked by a red flag along with an aerial photograph showing the property and its surroundings is included in **Exhibits 6C and 6D**.

Zoning – The entirety of the Property is zoned R-10, a zone permitting one family dwelling units with a minimum lot size of 10,000 square feet. Although the current subdivision of the property permits two homes to be built, the potential yield on the Property given its current zoning is four lots. A more detailed analysis of the zoning and potential yield of the Property is found in the Legal Analysis section that follows.

Surrounding Neighborhood – The Property is located in the Shirley Woods neighborhood of the Market Area, adjacent to Country Club and Country Club Hills neighborhoods. The surrounding uses are almost entirely single-family homes mostly built around the middle of the last century, typical for the Market Area. A map showing the surrounding parcels and the buildings located thereon is found at **Exhibit 6E** with the Property outlined in red. This map shows the context of the surrounding neighborhood. All four sides of the Property contain single family detached homes with a greater density of homes located on the other side of Old Dominion. Immediately to the west of the Property is a very large single family home on a single 50,000 square foot lot. Arlington County lists this home, a recently completed custom home, as having more than 6,000 square feet of above grade finished floor space.

Schools – Homes on the Property will feed into the following public schools:

Elementary School	Jamestown
Middle School	Williamsburg
High School	Yorktown

Although all of the schools in the Market Area are excellent, this trio represents a particularly desirable choice for potential homebuyers. Jamestown Elementary School, in particular, is the highest ranked school in the Market Area and ranked in the 97th percentile in the state of Virginia based on its standards of learning test results.

Green Characteristics – Redevelopment of the Property is, by itself, consistent with many of the principles of green development. This is an infill location that will rely on existing infrastructure, reducing the amount of resources required to develop and build the Project. Its proximity to job centers, mass transportation facilities and amenities also means that homeowners will be able to reduce their automobile travel time.

Homeowners will also have the option of avoiding driving completely as Old Dominion Road is a Metro Bus route connecting Tysons Corner to the Rosslyn-Ballston Corridor. Before any consideration is given to the greenness of the homes to be built on the Property, the development of the Property into four single family lots is materially more environmentally friendly than building four homes in the further out suburbs of the Washington Area.

Physical Characteristics – The topography of the Property is relatively flat. The Topographical Map included as **Exhibit 6F** shows that there is no more than a five foot change in grade over the entirety of the property, with a slight increase in elevation at the southwest corner of the Property along Little Falls. The flatness of the site should provide the greatest amount of flexibility in laying out the homes on the site without working around any significant grade changes. Other than the current house occupying the Property, the site is wooded.

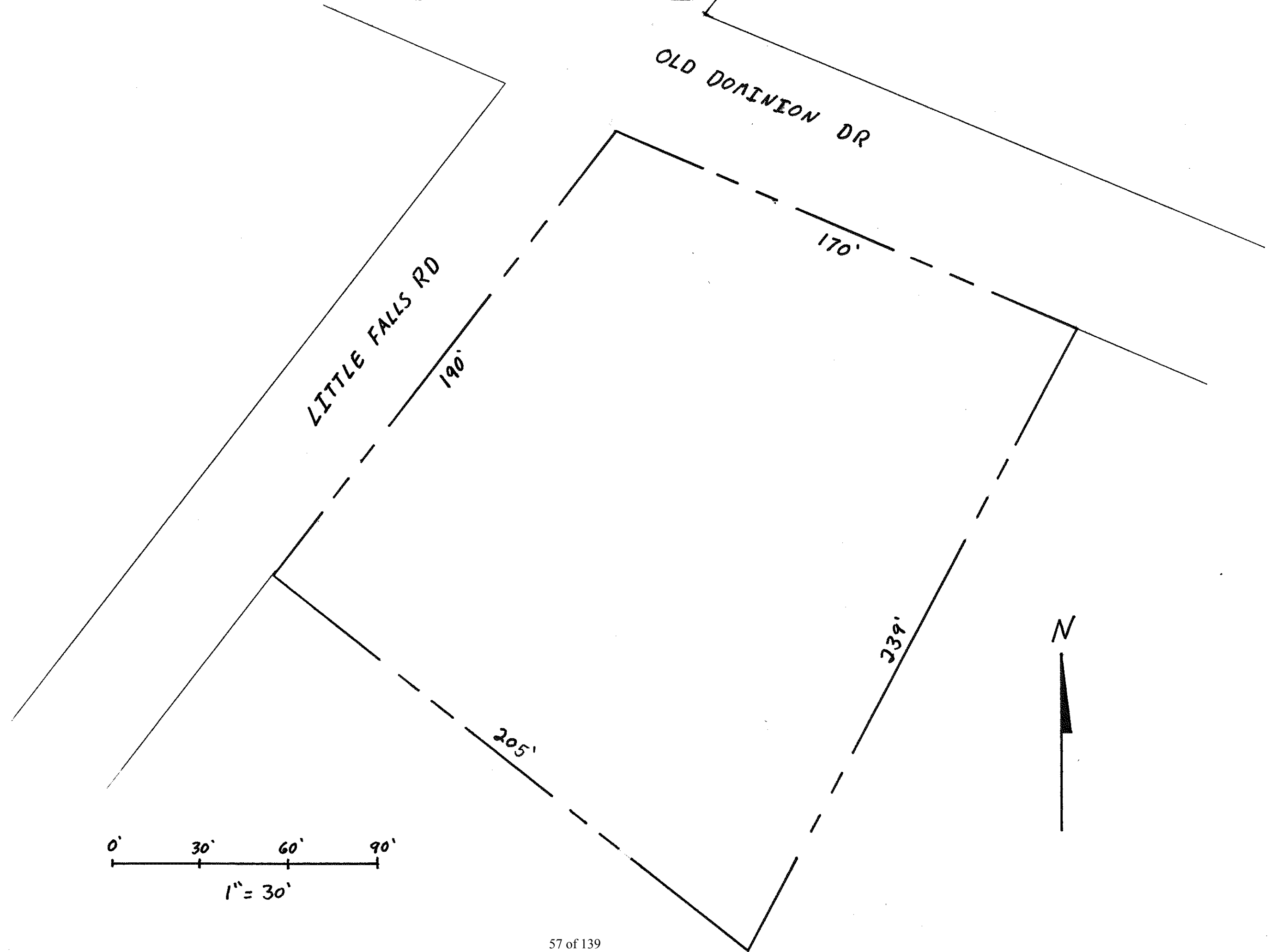
The following summarizes the specific strengths and weaknesses of the Property, which must be addressed when designing a site plan and marketing of the homes for sale.

Strengths

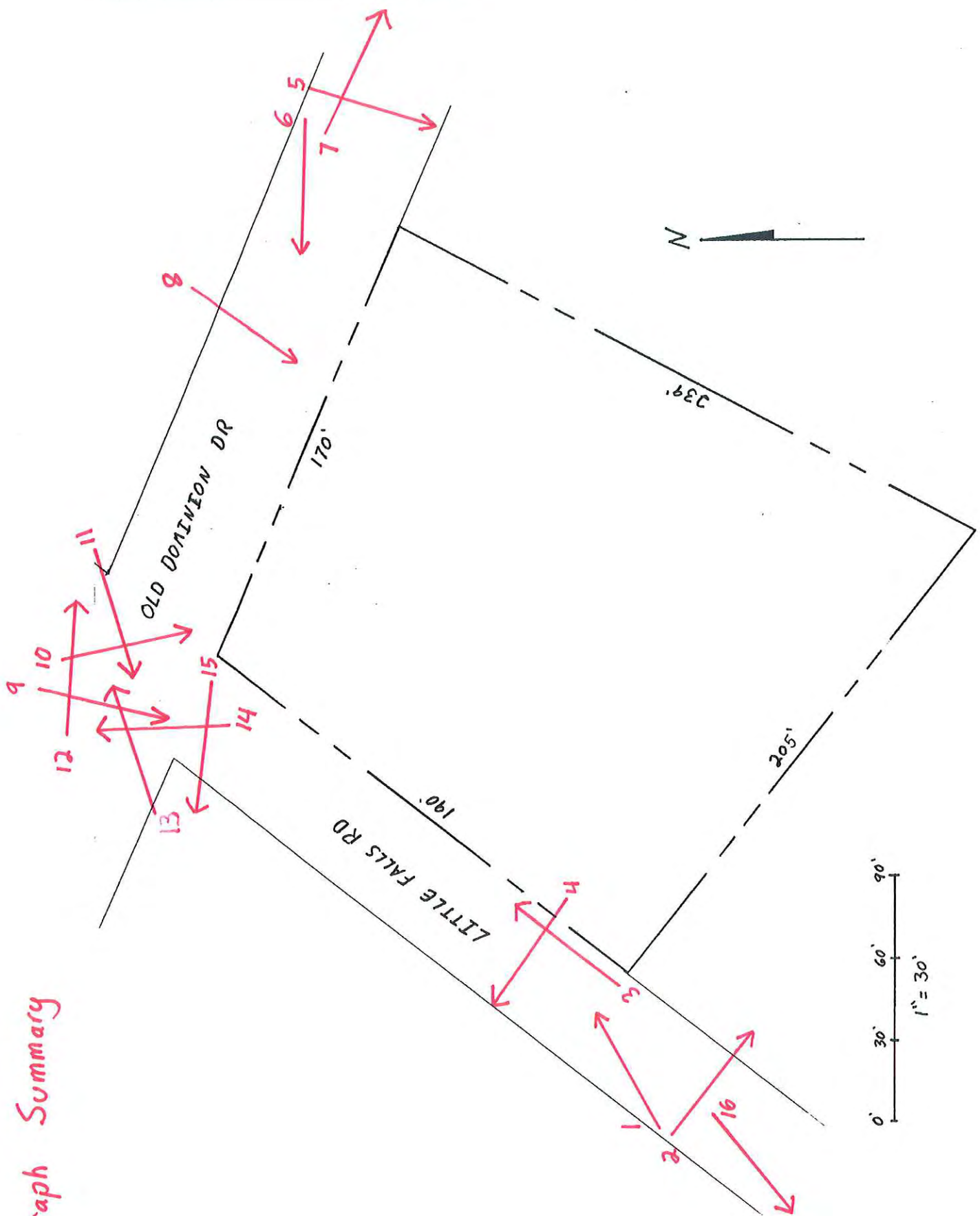
- Good visibility for the site as it sits along Old Dominion. This will help to attract potential homebuyers to the site once marketing begins.
- The Property is relatively flat, maximizing the flexibility when situating houses.
- Great public schools – Jamestown Elementary, Williamsburg Middle School and Yorktown High School
- Easy access to McLean and Tysons Corner by going northwest on Old Dominion Drive and to the Rosslyn-Ballston Corridor, Downtown and Interstate 66 by going southeast on Old Dominion.
- Close proximity to Washington Golf and Country Club. This presents potential opportunity to market the homes to members of the country club.
- The Property can be accessed from Old Dominion Drive or from the south on Little Falls Road. This gives residents the option of avoiding a potentially difficult left turn onto Old Dominion Drive from Little Falls Road.
- The existing house on the Property is run down and does not add to the character of the surrounding neighborhood.

Weaknesses

- The frontage on Old Dominion is a concern. Although only a two lane road, it is heavily traveled and creates noise on the Property as well as potential perception problem – people generally do not want to live on a busy street.
- Shape of the lot and the direction of the streets will make it difficult to position the houses so as to maximize the southern exposure of the homes.
- The Property is mostly wooded, creating a potential issue with neighbors who may want to keep the Property as open wooded space.



Photograph Summary





7











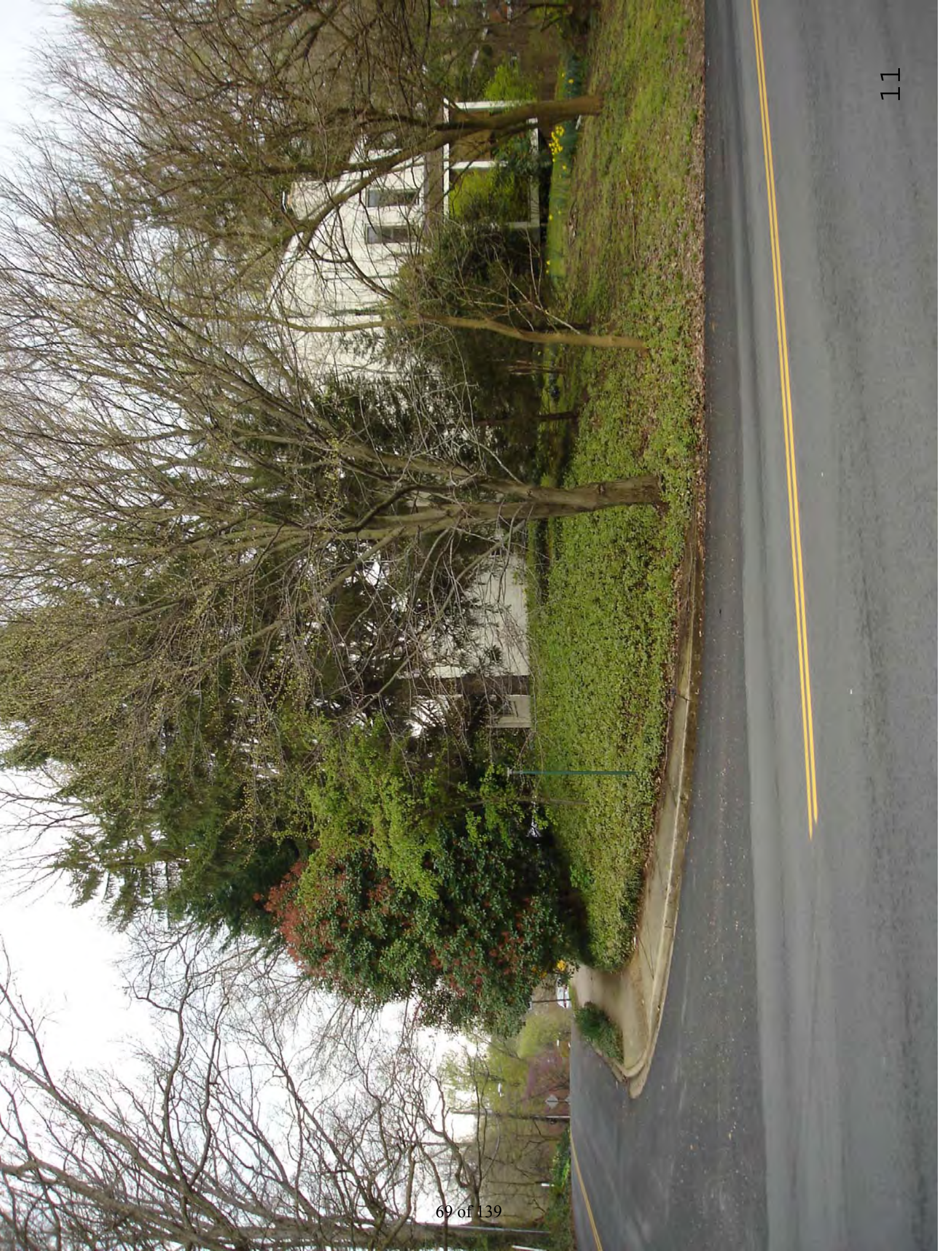
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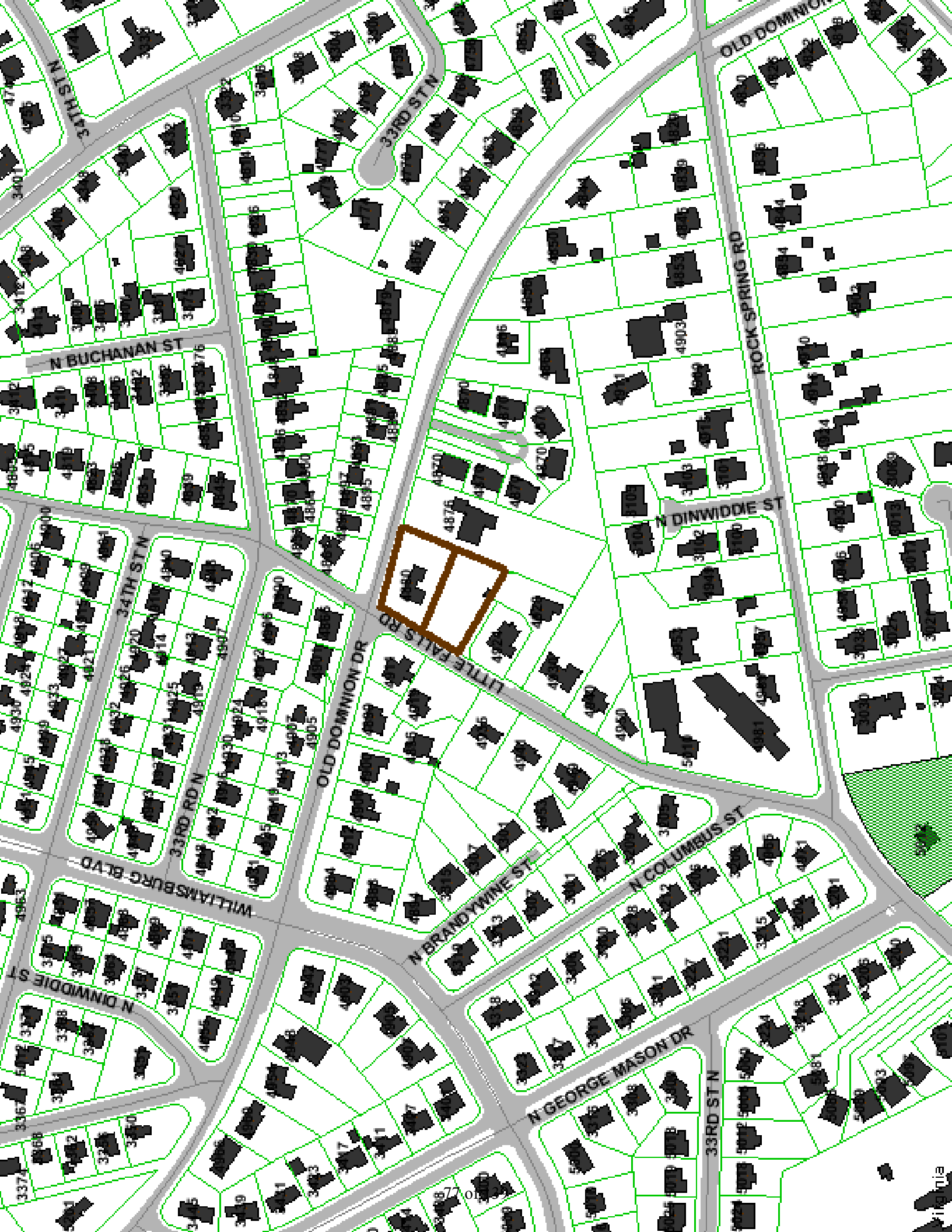




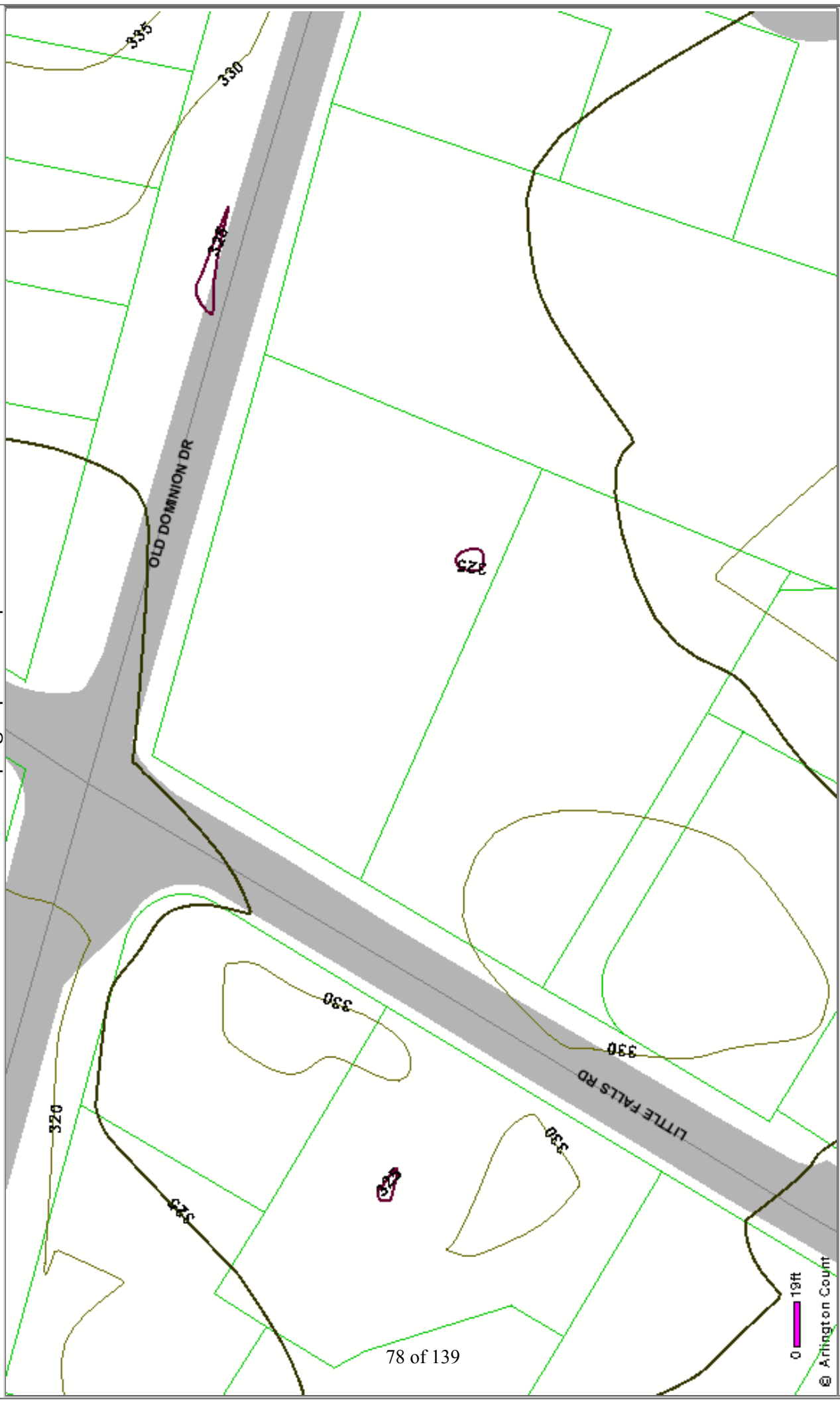


This map shows the Market Area in Washington, D.C., which is shaded in purple. The area is bounded by the Potomac River to the north and west, and by the George Washington Memorial Parkway to the south. Major roads include Foxhall Rd NW, MacArthur Blvd NW, Canal Rd NW, Military Rd, N Glebe Rd, N River St, Chesterbrook Rd, Old Dominion Dr, Park Rd, Yorktown Blvd, Lee Hwy, and 24th St N. Other streets shown include W St NW, W St N, 25th St N, 26th St N, 27th St N, 28th St N, 29th St N, 30th St N, 31st St N, 32nd St N, 33rd St N, 34th St N, 35th St N, 36th St N, 37th St N, 38th St N, 39th St N, 40th St N, 41st St N, 42nd St N, 43rd St N, 44th St N, 45th St N, 46th St N, 47th St N, 48th St N, 49th St N, 50th St N, 51st St N, 52nd St N, 53rd St N, 54th St N, 55th St N, 56th St N, 57th St N, 58th St N, 59th St N, 60th St N, 61st St N, 62nd St N, 63rd St N, 64th St N, 65th St N, 66th St N, 67th St N, 68th St N, 69th St N, 70th St N, 71st St N, 72nd St N, 73rd St N, 74th St N, 75th St N, 76th St N, 77th St N, 78th St N, 79th St N, 80th St N, 81st St N, 82nd St N, 83rd St N, 84th St N, 85th St N, 86th St N, 87th St N, 88th St N, 89th St N, 90th St N, 91st St N, 92nd St N, 93rd St N, 94th St N, 95th St N, 96th St N, 97th St N, 98th St N, 99th St N, 100th St N. Landmarks include Potomac Hills, Mori St, Chesterbrook, Old Dominion Dr, Park Rd, Franklin Park, Stratford Hills, Little Falls, Yorktown Blvd, Lee Hwy, Edison St, Patrick Henry Dr, 22nd St N, 23rd St N, 24th St N, 25th St N, 26th St N, 27th St N, 28th St N, 29th St N, 30th St N, 31st St N, 32nd St N, 33rd St N, 34th St N, 35th St N, 36th St N, 37th St N, 38th St N, 39th St N, 40th St N, 41st St N, 42nd St N, 43rd St N, 44th St N, 45th St N, 46th St N, 47th St N, 48th St N, 49th St N, 50th St N, 51st St N, 52nd St N, 53rd St N, 54th St N, 55th St N, 56th St N, 57th St N, 58th St N, 59th St N, 60th St N, 61st St N, 62nd St N, 63rd St N, 64th St N, 65th St N, 66th St N, 67th St N, 68th St N, 69th St N, 70th St N, 71st St N, 72nd St N, 73rd St N, 74th St N, 75th St N, 76th St N, 77th St N, 78th St N, 79th St N, 80th St N, 81st St N, 82nd St N, 83rd St N, 84th St N, 85th St N, 86th St N, 87th St N, 88th St N, 89th St N, 90th St N, 91st St N, 92nd St N, 93rd St N, 94th St N, 95th St N, 96th St N, 97th St N, 98th St N, 99th St N, 100th St N. The map also shows the Potomac River, the George Washington Memorial Parkway, and the Washington, D.C. skyline in the background.





4880 Old Dominion Drive
Topographic Map



LEGAL ANALYSIS

Master Plan – All jurisdictions in Virginia are required to have a master plan to plan land uses for the long-term. Arlington County’s master plan is called the General Land Use Plan (GLUP). According to the GLUP, the Property and all of the surrounding neighborhood is planned for Low Density Residential of between one and ten units per acre. This designation is given to most of the single family land in the county. Given the Property’s size of just under one acre, then, the Property can accommodate between one and nine homes under the GLUP.

Current Zoning – The Property is zoned R-10 “One Family Dwelling District” which permits single family detached homes by-right with a minimum lot size of 10,000 square feet and a minimum average lot width of 80 feet. Additionally, each lot must have a minimum of 40 feet of frontage along a public street. Based on the minimum lot size alone, four lots are permitted by-right on the 40,268 square foot property. If the minimum lot width and size are adhered to, the Property can be subdivided into four single family lots. However, the requirements and shape of the lot would severely restrict the flexibility of laying out these lots on the Property. While it may be possible, such a layout is not likely to be desirable.

Based upon the Property’s designation under the GLUP, an argument could be made to rezone the Property to a denser zone to permit up to nine homes to be built. Such a rezoning, however, is not likely and there is little precedent upon which to build a case. After a review and recommendation by county staff in the Planning Division, a rezoning application must be approved by a majority vote of the Arlington County Board, a group of five elected officials. One of the first items the staff and board members will look at is the surrounding land uses and densities. All of the surrounding land is zoned also zoned R-10 and developed consistent with the conditions of that district. A higher density on the Property would not be consistent with surrounding densities. A rezoning application, a costly and time consuming process that is not likely to be approved, should be avoided.

Fortunately, the county has developed two alternative methods that enable more flexible development solutions without going through a rezoning. These options are detailed below.

Residential Cluster Development (RCD) – Section 31.A.8 of the Arlington Zoning Ordinance permits developers to pursue an RCD to “allow, by site plan approval, the

clustering of one-family dwellings, in order to preserve, maintain and enhance the character of one-family residential neighborhoods.” This process does not permit additional density over that permitted by the underlying zoning district, but it does enable the County Board to waive certain requirements (such as lot size and width) in order to create a plan that not only meets the aforementioned goals but may also preserve open space or other community features.

Some of the additional site design requirements are as follows:

- Maximum coverage (building, right of way, parking and drives) of 50%;
- Common open area shall be at least 2,500 square feet per dwelling unit;
- Parking – Not less than 2.5 spaces per unit, of which at least two must be located off-street.

RCDs can only be approved by a majority vote by the County Board pursuant to a Site Plan. Site Plans are special exceptions whose submission and approval shall comply with Administrative Regulation 4.1, Site Plan Approval Procedure. This regulation is a 53 page document that details the items that must be included in the submission and outlines the steps required for approval. According to Section 36.H.1 of the Zoning Ordinance, the Board may vote on the application between 120-180 days after the application has been submitted and accepted by county staff. Additionally, the County Board may impose conditions on any approved Site Plan to ensure, for example, that adjacent property owners are protected and that adequate provisions have been made for community facilities. Since a site plan for the Property would be below 1.0 FAR, no on-site affordable housing (or contribution in lieu) is required.

Unified Residential Development (URD) – A URD is similar to an RCD in that it allows the County Board to waive certain requirements of the zoning ordinance without increasing the by-right density on the site, in order to “provide for flexible, site specific solutions for the development of one-family detached dwellings,... to implement the purposed of the General Land Use Plan and the Zoning Ordinance; promote the compatibility of one-family residential developments with surrounding neighborhoods...”.¹ The objectives are very similar to the Residential Cluster Development but the requirements are substantially less imposing to a developer.

¹ Arlington County Zoning Ordinance, Section 31.A.13

Like an RCD, a URD is also a form of Special Exception that requires approval by a majority of the five member County Board. Unlike an RCD, however, a URD does not require a Site Plan Application. Rather, a URD is a type of Special Use Permit whose submission and approval is governed by Regulation 4.11, a substantially thinner regulation than 4.1 at only 13 pages. The approval time is also projected to be substantially shorter than a Site Plan. The county estimates that a URD is typically approved within 68 days after submission and acceptance by county staff.²

This method is the clear method of choice to obtain approval for the Property. The arguments in favor of receiving approval for a Unified Development Plan instead of a by-right subdivision are numerous. First, it will permit Viridis to preserve common open space and create a more compact development that is consistent with the principles of green building. Additionally, it will help to enhance the surrounding neighborhood by providing the flexibility to position the lots and the houses in a way that best complements the surroundings and is not simply dictated by the constraints of the Property.

One of the requirements of both a Site Plan under the RCD and a Special Use Permit under the URD is that each applicant must submit a LEED scorecard (or other comparable method) along with the application. The purpose is to show how components of sustainable design are or are not being met. There is no county requirement that the building be LEED certified but this requirement is part of the county's efforts to promote green buildings. Presumably, showing the number of points projected under the National Green Building Standards would be acceptable to the county. This provision should only work in favor of the application for the Property.

Lot Coverage – In 2007, Arlington incorporated new lot coverage restrictions into the Zoning Ordinance. These new regulations were approved in response to many of the so-called McMansions being built in the county - large homes built on small lots and occupying a significant portion of the lots. These oversized houses led to an outcry from Arlington citizens. Although under the Unified Residential Development the County Board has the right to waive many requirements in the zoning ordinance, including coverage, they are not likely to waive the provisions of this new ordinance for the Property. Additionally, reducing the coverage is consistent with green building

² Arlington County Department of Planning, Housing and Development website, "Use Permit", www.arlingtonva.us/departments/cphd/planning

principals so should be incorporated into the site plan. Any or all portion of a building, driveway, or sidewalk is considered covered area. While the proposed lots on the Property may be substantially less than 10,000 and the homes thereon may exceed the coverage requirements detailed in Section 32 of the Zoning Ordinance, the Project must comply with these percentage requirements for the overall project. Additionally, the Footprint Caps shall apply to the homes on the Property. The restrictions are as follows:

Maximum Lot Coverage	32%
Maximum Lot Coverage with front porch	35%
Maximum Lot Coverage with rear detached garage	37%
Maximum Lot Coverage with rear detached garage and front porch	40%
Maximum Main Building Footprint Coverage	25%
Maximum Main Building Footprint Coverage with front porch	28%
Main Buildings Footprint Cap	3,500 sf
Main Buildings Footprint Cap with front porch	3,920 sf

Setbacks and Yards – Per section 32.D of the Zoning Ordinance, the following setbacks apply to the Property, unless waived by the County Board pursuant to the URD ordinance:

Front Setback from Right-of-Way	25 feet
Side and Rear Yard	10 feet

Other Requirements – There are several other requirements that must be met per Chapter 23 (Subdivisions) of the Arlington County Code:

Alleys – Alleys, which are defined as rights-of-way, “other than a street, which provides service access for vehicles to the side or rear” are permitted and shall have a minimum width of 20’.

Public Street Improvements – Along the frontage of any property being subdivided, the subdivider is required to build to the county standards. This will include the installation of curb and gutter along Little Falls Street and Old Dominion as well as the installation of 4’ (minimum) sidewalk along the street frontage.

Storm Water Management – On on-site storm water detention facility shall be required in accordance with Chapter 60 of the Arlington County Code, Storm water Detention.

Process – The first step in the entitlement process will be to create the required plans required for submitting the URD application taking into account all of the requirements

and restrictions referenced above. Per Administrative Regulation 4.11, this application shall include justification of how the proposal meets the intent of the URD ordinance, a survey of the property showing existing conditions and topography, a proposed subdivision plat, elevations of all structures, the physical relationship of the proposed buildings to the surrounding buildings, and a LEED scorecard (or similar measure). A traffic impact analysis is not required because of the small number of houses proposed for the Property. Preparation of the required material should be completed within 4 weeks after commencement.

Upon receipt, staff will review the application for completeness and, if complete, the application will be accepted. County planning staff will then review the application and make a recommendation. The application is then heard by the Planning Commission which will review the application in a public hearing and make a recommendation to the Board. Review by the Planning Commission may be waived at the discretion of the County Manager. The recommendation by both staff and the Planning Commission can be either in favor or opposed to the application or in favor subject to specific conditions that should be met by the applicant. The application is then sent before the County Board for a public hearing. At that time, the County Board may vote (by majority) to defer decision until a later time, approve the application, approve the application with conditions, or deny the application. Although the County website estimates an average of 68 days from acceptance to approval, a more conservative assumption of the time required is 90 days (13 weeks) from submission of the application until approval of the URD.

If the County Board approves the Unified Residential Development Use Permit (conditionally or otherwise), there are no more public hearings for the Property. At that time, the political approval process is over. The remaining steps are administrative and approved by staff or by the County Manager (or his designee). The next step is the subdivision of the Property, a two stage process comprised of a Preliminary Plat and a Final Plat. Both plats are to be approved by the County Manager (or his designee) after his review. Prior to acceptance of the Final Plat, the developer must post a bond (or letter of credit) in an amount equal to the cost of installing the public improvements on the property (sidewalks, street frontage improvements, etc). Once the Final Plat is recorded, building permits can be approved and development and construction can commence. Thomas Colucci of Walsh Colucci Lubely Emerich & Walsh, a leading land use attorney in Arlington, estimates that the subdivision approval process is approximately 90 days from submission of the Preliminary Plat to approval of the Final Plat.

Green Building Issues – In an effort to promote environmentally responsible development, Arlington County has developed the Green Home Choice program. This program recognizes homes that are built using green building and design techniques and seeks to incentivize builders to build green by providing expedited building permit review. Currently, the program is based on the Earthcraft House program created by the Southface Institute. The Earthcraft House program has similar focus areas as LEED for Homes and NAHB’s National Green Building Standards (NGBS). Given the county’s use of the International Residential Code (IRC) as its building code and the NGBS tie-in with the IRC explained in the Design Parameters section, it is likely that the county will switch to the NGBS. In addition to its tie-in with the IRC, the NGBS will be nationally recognized and certified green building standards while the Earthcraft House is one of several competing standards vying for but not achieving national recognition.

If the county does not adopt the NGBS as its standard, the Property will be designed and developed to comply with the Earthcraft House program. This does not represent a major impediment to designing and building the homes on the Property. Since the competing standards are relatively similar, the proposed homes will meet the requirements of both standards. However, since the Earthcraft House program is not sponsored by a national organization like the NGBS, potential homebuyers may perceive it as an inferior measure of a homes sustainability. This could be overcome by additional education about the green building measures taken in the design and construction of the homes.

Under the Green Home Choice program, homes are certified by county inspectors, and promotional materials are provided to the builder by the County including a sign to be posted at the home during construction. Importantly, building permit applications also receive “front of the line” priority for review, shortening the time required to obtain building permits.

Land Acquisition Contract Issues – There are a substantial number of unknowns associated with the approval of the Unified Residential Development. Although it is likely that four homes will be approved for the Property, politics will be involved and the outcome cannot be predicted with certainty. Additionally, it remains possible that substantial conditions could be imposed on the approved URD by the County Board. To lessen the risk of loss associated with excessive conditions or a lower yield, the contract to acquire the Property must be contingent upon (at least) the approval of the URD, and preferably the approval of the final subdivision plat. A substantial deposit can be posted

upon the end of a free feasibility study period but this deposit must be held in escrow and made non-refundable to the Purchaser (Viridis) only in the event that the URD is approved. Viridis cannot afford to acquire the Property outright prior to approval by the board and risk the loss of not obtaining approval for four units. These terms must be included in the agreement to acquire the Property.

SITE DESIGN

The goals of laying out the site for its intended purpose are, to the extent possible, to capitalize on the strengths of the Property while marginalizing to the Property's weaknesses. Site layout must also incorporate the Viridis's Design Vision Statement of meeting the demands of the markets, complementing the existing neighborhood and incorporating green design techniques as well as including the Company's specific design parameters. Finally, the layout has to work within the legal restrictions imposed by Arlington County. Some of these interests may be competing, resulting in trade-offs and compromises in the design of the layout of the Property.

Shown below and included in **Exhibit 8A** in a larger scale is a sketch site plan for the Property yielding four detached single family homes. The following sections explain how this site plan meets the Company's goals for the Property and comply with the legal restraints.



The site plan shows a total yield of four houses each with an identical footprint. Three of the houses are fronting onto Little Falls Road and the fourth house fronts onto Old Dominion Drive. This was a deliberate attempt to minimize the impact of Old Dominion Drive, a substantially busier road than Little Falls. The frontage along Old Dominion was cited as a weakness for the property because of the number of cars that travel on this road, particularly in both morning and evening rush hours. Space constraints prevented all four homes from fronting onto Little Falls. In addition to fronting only one house on Old Dominion, a forty foot set-back from the right-of-way was used between house number 4 and Old Dominion. By comparison, there is only a thirty foot setback from the Little Falls right-of-way. This larger set-back along Old Dominion will permit additional landscaping to create a further visual buffer from the road. The required set-back from the right-of-way is 25'.

As opposed to separate driveways serving each house, all four houses are served by a common alley. This alley is accessed from Little Falls Road at the point furthest from Old Dominion. The location will serve to eliminate any driving conflicts that could occur with having driveways or alleys located so close to the intersection of Old Dominion and Little Falls. The alley's entrance off of Little Falls also will make coming and going much easier for the future homeowners since Little Falls is a minimally traveled road. The alley is a minimum of 20' wide in all locations to meet Arlington County requirements.

The concept of a shared alley is also consistent with the goals of green site-planning and development. As opposed to each house having a separate driveway running from the street to the rear entry garage, the shared alley reduces the amount of paved area on the site. There are two parking spaces provided behind the houses off of the alley. These spaces increase the total parking ratio for the project to 2.5 spaces per unit, the minimum county requirement. If county officials accept street parking along Little Falls when calculating the parking ratio, these spaces can be eliminated and the amount of paved surface area can be further reduced.

The size and shape of the Property limits the flexibility to situate the homes to in a way that maximizes the southern exposure of the homes. To do so would involve rotating the homes so much that they lose their orientation to the streets. The current site plan shows the majority of the homes situated perpendicular to Little Falls with the long side of the homes facing to the southwest. It may be possible to rotate the homes a few degrees

counterclockwise to increase their southern exposure. The three houses along Little Falls Road are each 20' apart which meets the Arlington County requirement of 10' side yards.

Additionally, the characteristics of the Property largely dictate the basic shape of the homes that can be built. The Property is very deep with relatively little street frontage given its size. So as not to bury a house behind other houses in the southeast corner of the Property (which would not likely be approved by Arlington County officials), the most logical shape of the homes is relatively narrow in width but quite deep. Overall the footprints shown on the Site Plan are 30' wide and 76' deep. The footprints can be further broken down into three sections. The main section at the front is 30' wide by 40' in depth. Behind this section is a 15' wide by 16' deep section which, in turn, is attached to the garage which is 20' by 20'. The total footprint of the house is 1,840 square feet. While this footprint is narrower than many new homes built today (many of which are on substantially wider and shallower lots), the width is generally consistent with many of the older homes in the surrounding neighborhood.

Using this footprint, two model types can be accommodated on the Property. The first model type (Type A) is 2,880 above grade finished square feet. This is a four bedroom model and is based on finishing the first and second sections described above on two full levels. The second model type (Type B) is 3,280 square feet and is five bedrooms. Compared to the first model type, this model incorporates 400 square feet of finished area located above the garage. It was an important consideration that all of the homes on the Property share a common footprint and, with the exception of the second floor, a common floor plan. While the homes can be differentiated on the exterior using different materials, colors and architectural features, sharing a common floor plan results in substantially lower design costs. Instead of having to design four separate houses, the architect can design one model with an option for a finished room above the garage.

Rear entry garages were cited as a specific design objective in the Design Parameter section. Rear entry garages accomplish three objectives. First, they enable the front of the house to be more attractive since they are not dominated by a large two-car garage door. This is especially important given the relatively small area of these houses fronting onto the public rights-of-way. Moving the garage to the rear will prevent the look that is common in many new home communities where the houses often look like garages with a home attached to them as opposed to houses with a garages attached to them. Second, hiding the garage entrance is consistent with many of the other homes in the area, particularly the older homes that oftentimes were built with no garages at all. Lastly, the

rear entry garage prevents the homeowners from having to back their cars directly onto the right-of-way. This concern is particularly acute for house number 4 where the owner would be required to back out onto Old Dominion Drive. The downside of rear entry garages is the loss of a rear yard. To compensate for this lack of rear yard, the garages on the homes were set off from the main part of the house by a 15' section that creates a patio area that can be landscaped and/or hardscaped into a very attractive and functional outdoor space.

The flexibility of the Unified Residential Development (URD) ordinance makes this plan possible. The rigid standards of a by-right development would likely only result in a total yield of three houses with little flexibility in terms on situating the homes on the Property. Four lots will enable Viridis to (1) offer more money for the Property and (2) promote smart growth and green development by encouraging density in closer-in, in-fill locations using existing infrastructure. Additionally, the URD allows the majority of the homes to be clustered along Little Falls Road, preserving two main areas of open space. These areas are located at the intersection of Old Dominion and Little Falls (and running along Old Dominion) and in the rear corner of the Property. As the Property slopes toward Old Dominion, it is likely that a portion of this open area along Old Dominion will need to be utilized as a storm-water management facility. Depending on the run-off calculations for the Property, to be performed by an engineer, this facility would be an underground detention facility or more likely an above ground rain-garden or dry pond. Except during heavy rains, this area would appear as a grassy or landscaped area and not have a negative impact on the Property, aesthetically or otherwise.

As discussed in the Legal Analysis section, Arlington County in 2007 enacted legislation that imposed lot coverage restrictions. The approved ordinance represented the county's effort to prevent the construction of large McMansions that occupied a very large percentage of the lot, leaving very little open space and resulting in structures that hulked over the existing homes in the neighborhood. The table shown in the Legal Analysis section is shown again below.

Maximum Lot Coverage	32%
Maximum Lot Coverage with front porch	35%
Maximum Lot Coverage with rear detached garage	37%
Maximum Lot Coverage with rear detached garage and front porch	40%
Maximum Main Building Footprint Coverage	25%
Maximum Main Building Footprint Coverage with front porch	28%
Main Buildings Footprint Cap	3,500 sf
Main Buildings Footprint Cap with front porch	3,920 sf

The homes on the Property are designed to have a front porch. Thus, the applicable restrictions are bolded in the above table. Although the homes have garages in the rear, they are not designed as detached garages. During the approval process, it would certainly be prudent to argue that 40% is applicable percentage because the rear garages satisfy the intent of the legislation. Nonetheless, a 35% coverage restriction is the current goal.

The coverages for the Property are summarized in the table below:

Total Property Size	40,268	
	<u>Actual</u>	<u>Maximum</u>
Building Footprint	1,840	
Front Porch Footprint	100	
Total Building Footprint (per unit)	1,940	3,920
 Total Bulding Footprint (Property)	 7,760	
Coverage	19.3%	28.0%
 Total Building Footprint	 7,760	
Alley	4,850	
Rear Patios (200 SF each)	800	
Lead walks (4' wide to ROW)	520	
Total Coverage (SF)	13,930	
Total Coverage Ratio	34.6%	35.0%

The Property meets all of the coverage requirements imposed by the County. The Total Coverage Ratio, however, is very close to the maximum permitted. Perhaps too close for the County Board to approve the project based on its “green” merits. In addition to arguing that 40% is the appropriate coverage ratio the Property should be subject to, it would help to argue that other green aspects of the Project reduce the amount of impervious surface area well below the 34.6% coverage ratio currently shown. By using a pervious paver product in lieu of concrete (for the lead walks and patios) and asphalt (for all or a portion of the alley), the total impervious area for the project will substantially reduced. The substantially smaller footprints (compared to the required maximum) in combination with the use of permeable materials make this project wholly consistent with the intent of the coverage legislation.



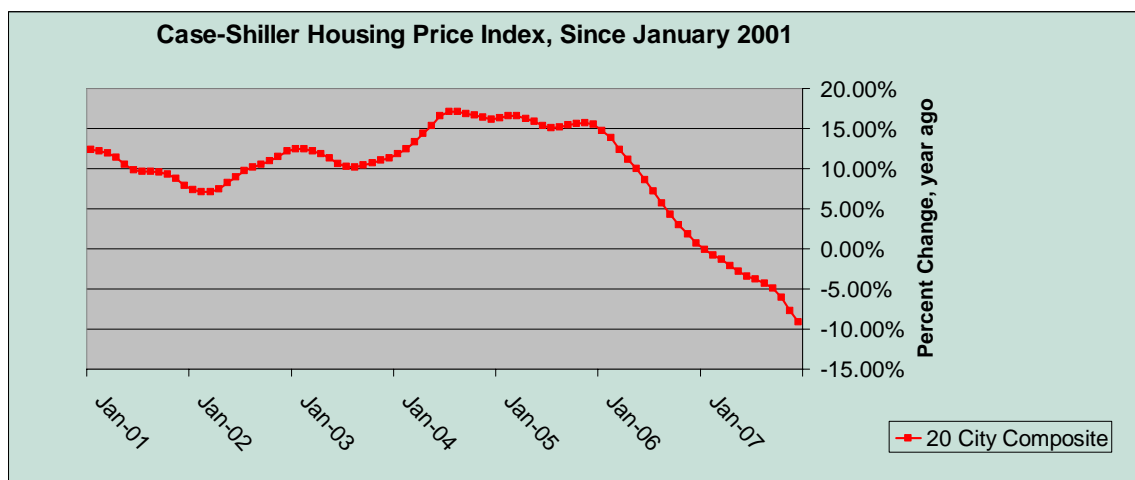
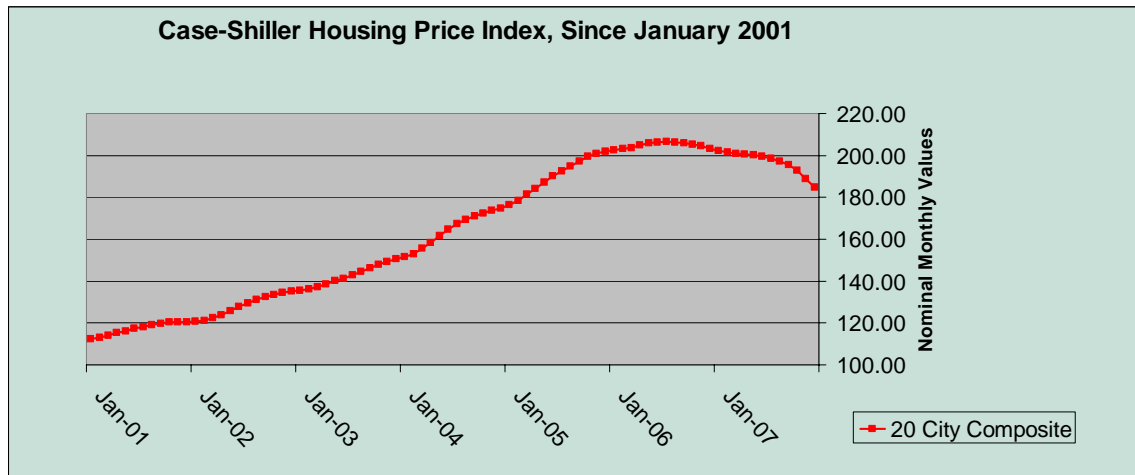
MARKET ANALYSIS

“All real estate is local” is an often repeated phrase in the industry. Indeed, there are substantial variances in different regions of the metropolitan area and even substantial variations within Arlington County. However, real estate probably now more than ever is part of the national and global economy and each local market is impacted by the financial markets and national economic trends and events. The following analysis is a top down approach to the analysis of new home market in the Market Area – starting with the context of the national real estate market, and narrowing scope down to the local market.

National Residential Real Estate Market

After several years of substantial growth in both the quantity and prices of homes sold, the residential real estate market started a significant correction after peaking in approximately the summer of 2006. The rate of growth had begun to slow significantly several months before prices peaked. The reasons for the multi-year boom in real estate prices are heavily debated; however, there are two commonly cited reasons for the growth in the early part of the decade. First, interest rates were at historically low levels enabling buyers to buy more house for an equivalent monthly payment they would have paid several years earlier. Second, financing was readily available enabling borrowers to increase the amount of money borrowed, often in excess of the value of the property and with little or no documentation. Both of these factors were the result of national trends in the financial markets and the broader economy that fueled a speculative bubble.

Regardless of the reasons for the boom or its unraveling, the results are very clear. Prices have come down dramatically. One of the most widely cited measures of home prices is the Standard & Poors/Case-Shiller Housing Index. This index measures the changes in home values by comparing multiple sales of the same property. Since January 2000, S&P has maintained this index for a composite of the 20 largest metropolitan areas in the nation. Although not capturing all of the homes sold in the county, this composite index is a good proxy for home values nationwide. The following charts show the performance of this index since January 2001. The first graph charts the nominal monthly values of the index and the second charts the percentage changes from the same period one year earlier. From its peak in July 2006 (after months of showing substantially slower growth), the index began to decline and through December 2007 is now almost 10.5% lower than the peak.



Although certain metropolitan areas are performing worse than others, the housing prices declines shown by the Case-Shiller Index represent a broad decline across the board. A total of 17 out of the 20 Metropolitan areas included in the composite index showed negative returns for 2007. Only Charlotte, Portland and Seattle showed gains in home prices during 2007 with Charlotte posting the largest annual gain of only 2.3%.¹

Statistics from other organizations also evidence the declining real estate market. The National Association of REALTORS (NAR) tracks monthly home sales and inventory levels for the national market. Based upon their seasonally adjusted and annualized statistics, existing home sales have declined approximately 28%, from approximately 6.8

¹ Press Release – “Year End Numbers Mark Widespread Declines According to the S&P/Case-Shiller Home Price Indices”. Standard & Poors, February 26, 2008.

million homes in January 2006 to approximately 4.9 million homes sold in January 2008 (annualized). New home sales have fared even worse than existing home sales, declining about 50% over the same period to an annual pace of 600,000 in January 2008. The percentage declines in prices shown by NAR, however, are not nearly as bad as indicated by the Case-Shiller index, indicating some potential disagreement over the full extent of home price declines in the US.

The following table summarizes shows the decline in sales and pricing from 2006 to 2007 for existing single family homes.

	Units Sold			Average Sold Price		
	2007	2006	% Δ	2007	2006	% Δ
Total US	4,939,000	5,677,000	-13.0%	\$266,200	\$269,500	-1.2%

Source: National Association of Realtors

Not surprisingly, over this same period that prices and sales have precipitously declined, the inventory of homes available for sale has increased. NAR also tracks monthly inventory levels of existing homes. In January 2006, there was a total supply of homes for sale of 2.9 million. By January 2008, total unsold inventory had increased almost 45% to a seasonally adjusted number of approximately 4.2 million homes. Based on their estimate, NAR estimated a 10.3 month supply of existing homes on the market – meaning that it would take 10.3 months to sell all of the homes listed today even if no additional homes are added to the market. In order to compare the supply of homes at the national level to the regional and local levels, the non-seasonally adjusted inventory at the end of January was divided by both three and six month moving averages of units sold to estimate the number of months of supply. The results are summarized below:

Months Supply of Single Family Homes

	Total US*
# of Active Listings (end of Jan. 2008)	3,650,000
# of Sales per Mo (6 mo mvg avg)	395,500
# of Sales per Mo (3 mo mvg avg)	343,000
Months Supply (6 mo mvg avg)	9.2
Months Supply (3 mo mvg avg)	10.6

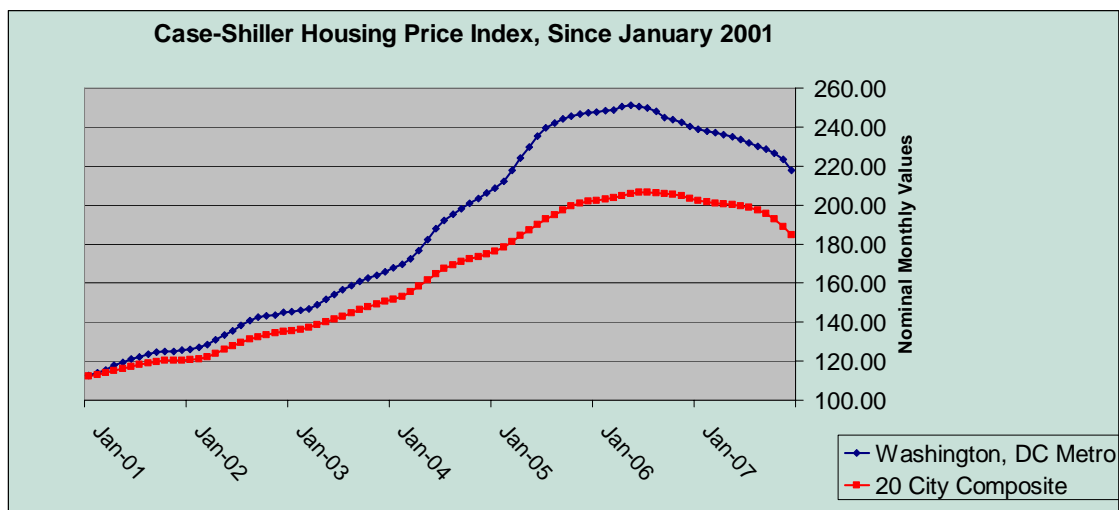
* Existing single family homes only

Source: National Association of Realtors (non-seasonally adjusted)

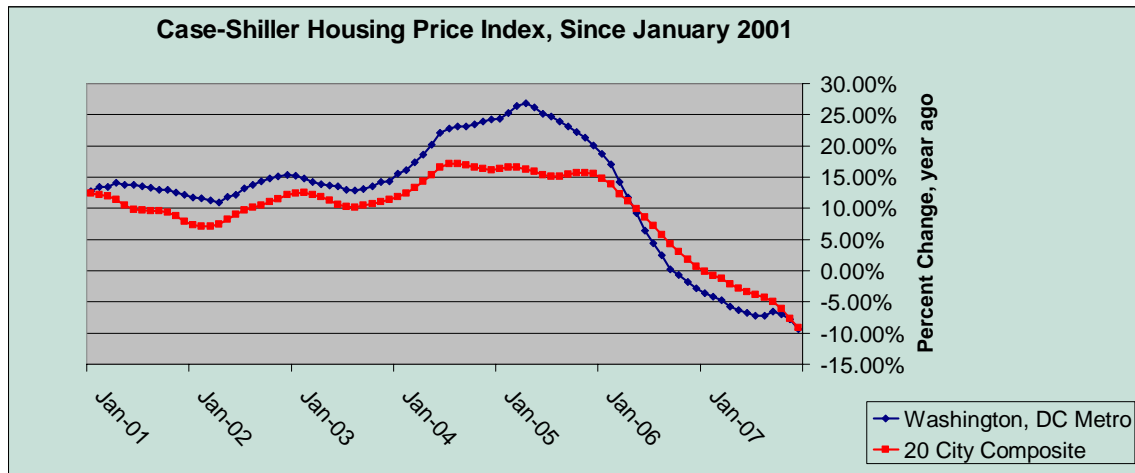
In addition to falling home prices, or perhaps because of them, the national economy is on the brink of or currently in a recession. The credit crunch caused by problems in the sub-prime mortgage markets has had a ripple effect through the financial markets. By mid-March, 2008, the *Wall Street Journal*, which performs monthly surveys of economists, announced that for the first time most of the surveyed economists (almost 70%) believed that the economy had entered into a recession.² This has led to a repricing of risk in the financial markets resulting in tighter lending standards by mortgage lenders. The unavailability of mortgage financing has certainly exacerbated the housing downturn and will likely continue to affect pricing in the near future.

Regional Housing Market

The Washington region is by no means immune to the national forces that are impacting the housing market. In some areas, the residential market appears to be performing worse than the national market. Standard & Poors publishes a regional Case-Shiller Index for the Washington MSA. The following graphs are the same as above with the addition of the data for the Washington MSA. These graphs shows the Washington Area outperforming the national market during the boom years earlier this decade and then underperforming the national market during the decline. Currently, it seems that the two markets are generally in line in percentage terms. Through December 2007, Washington DC area home prices had declined 9.4% since the same period a year earlier. The Washington MSA is a broad geographic area comprised of 24 separate cities and counties in Maryland, Virginia and West Virginia and including the District of Columbia.



² "Most Economists Say Recession is Here." *The Wall Street Journal*. March 13, 2008.



Breaking the region down a bit more, however, reveals some interesting trends. According to data from Metropolitan Regional Information Systems, Inc. (MRIS), the Northern Virginia area actually performed substantially better than the Case-Shiller Index for Washington has indicated, albeit using a different methodology than the Case-Shiller Index. Northern Virginia in this instance is comprised of the closer in suburban jurisdictions of Fairfax County, Fairfax City, Arlington County, the City of Alexandria and the City of Falls Church. From 2006 to 2007, the average sale price of a detached single family home decreased by less than 1%. The real trouble in the housing market appears to be located in the further out suburbs. Prince William County and the Cities of Manassas and Manassas Park, for example, saw a decline of 10.0% in the average detached single family home from 2006 to 2007. Clearly there is a wide disparity within the Washington, DC area with home prices in certain locations holding up substantially better than other further out locales.

The following table summarizes the number of homes, the average sale price, and the average number of days a property is on the market before it is sold for Northern Virginia and compares this to similar data for the US housing market shown above.

	Units Sold			Average Sold Price			Avg Days on Market		
	2007	2006	% Δ	2007	2006	% Δ	2007	2006	% Δ
Total US	4,939,000	5,677,000	-13.0%	\$266,200	\$269,500	-1.2%	unknown	unknown	
Northern Virginia	7,885	8,576	-8.1%	\$736,328	\$743,371	-0.9%	83	62	33.9%

Source: Regional and local figures from Metropolitan Regional Information Systems, Inc. (MRIS)
National Figures from National Association of Realtors

A similar pattern emerges when looking at the available supply of homes in the market. Although market conditions in Northern Virginia in 2007 were not as strong as 2006, the

months supply is not as large as it is on the national level. The following table summarizes the months supply and compares it to the national supply levels.

	Total US*	Northern Virginia**
# of Active Listings (end of Jan. 2008)	3,650,000	4,128
# of Sales per Mo (6 mo mvg avg)	395,500	567.3
# of Sales per Mo (3 mo mvg avg)	343,000	478.7
Months Supply (6 mo mvg avg)	9.2	7.3
Months Supply (3 mo mvg avg)	10.6	8.6

* Existing single family homes only

** Fairfax County, Fairfax City, Arlington County, Alexandria City, Falls Church City

Source: Local Figures from Metropolitan Regional Information Systems, Inc. (MRIS)

National Figures from National Association of Realtors (non seasonally adjusted)

Arlington County Housing Market

Just as the Northern Virginia region appears to be outperforming both the overall metropolitan area and the national housing market, Arlington County is outperforming the Northern Virginia Region on all counts. In fact, the average price of a detached single family home in Arlington County actually increased by almost 5% from 2006 to 2007. The number of units sold and the number of days on the market, however, did worsen over the same time indicating that while the market area is performing better than the national and regional markets, it is not untouched by the problems in the larger markets.

	Units Sold			Average Sold Price			Avg Days on Market		
	2007	2006	% Δ	2007	2006	% Δ	2007	2006	% Δ
Total US	4,939,000	5,677,000	-13.0%	\$266,200	\$269,500	-1.2%	unknown	unknown	
Northern Virginia	7,885	8,576	-8.1%	\$736,328	\$743,371	-0.9%	83	62	33.9%
Arlington County	1,029	1,084	-5.1%	\$804,352	\$767,858	4.8%	64	55	16.4%

Source: Regional and local figures from Metropolitan Regional Information Systems, Inc. (MRIS)

National Figures from National Association of Realtors

As the following table demonstrates, supply levels in Arlington County are also significantly better than both the national and regional markets. This is important because it provides some indication of future activity. The supply overhanging the national market indicates that further price reductions may be forthcoming so as to increase demand for homes and reduce the total months supply. With Arlington County at half of the months supply as the total US, future price reductions are less likely.

	Total US*	Northern Virginia**	Arlington County
# of Active Listings (end of Jan. 2008)	3,650,000	4,128	327
# of Sales per Mo (6 mo mvg avg)	395,500	567.3	76.2
# of Sales per Mo (3 mo mvg avg)	343,000	478.7	64.3
Months Supply (6 mo mvg avg)	9.2	7.3	4.3
Months Supply (3 mo mvg avg)	10.6	8.6	5.1

* Existing single family homes only

** Fairfax County, Fairfax City, Arlington County, Alexandria City, Falls Church City

Source: Regional and Local Figures from Metropolitan Regional Information Systems, Inc. (MRIS)
National Figures from National Association of Realtors (non seasonally adjusted)

Market Area Housing Market

As one might expect, the trend continues as Arlington County is reduced further to the Market Area of 22207. In addition to the homes becoming much more expensive and prices continuing to rise at a rapid pace, the total number of sales is virtually unchanged from 2006 to 2007. The average days-on-market for the sold homes, however, increased at a higher rate and is longer than the days on the market for all of Arlington County. This is likely the result of the higher absolute prices. More expensive homes, one would expect, would take longer to sell for the simple reason that the potential market (i.e. the number of people that can afford them) is smaller.

	Units Sold			Average Sold Price			Avg Days on Market		
	2007	2006	% Δ	2007	2006	% Δ	2007	2006	% Δ
Total US	4,939,000	5,677,000	-13.0%	\$266,200	\$269,500	-1.2%	unknown	unknown	
Northern Virginia	7,885	8,576	-8.1%	\$736,328	\$743,371	-0.9%	83	62	33.9%
Arlington County	1,029	1,084	-5.1%	\$804,352	\$767,858	4.8%	64	55	16.4%
Market Area - Total	382	383	-0.3%	\$956,652	\$881,646	8.5%	76	61	24.6%

Source: Regional and local figures from Metropolitan Regional Information Systems, Inc. (MRIS)
National Figures from National Association of Realtors

Despite the slightly higher days on market in the Market Area, the overall supply conditions are more favorable than the county overall.

	Total US*	Northern Virginia**	Arlington County	Market Area
# of Active Listings (end of Jan. 2008)	3,650,000	4,128	327	87
# of Sales per Mo (6 mo mvg avg)	395,500	567.3	76.2	28.5
# of Sales per Mo (3 mo mvg avg)	343,000	478.7	64.3	19.3
Months Supply (6 mo mvg avg)	9.2	7.3	4.3	3.1
Months Supply (3 mo mvg avg)	10.6	8.6	5.1	4.5

* Existing single family homes only

** Fairfax County, Fairfax City, Arlington County, Alexandria City, Falls Church City

Source: Regional and Local Figures from Metropolitan Regional Information Systems, Inc. (MRIS)

National Figures from National Association of Realtors (non seasonally adjusted)

To better understand the potential demand for homes and its relation to supply, a demand analysis model follows. Based on the number of households in Arlington County earning \$200,000 or more (the highest income bracket shown by the US Census Bureau), their propensity to move within the county, the market share of 22207 compared to the county overall, and this group's percentage of those moving into the county, there appears to be demand for 429 homes in the market area. This demand is substantially more than the number of homes sold in each of the past two years shown above and indicates that prices are likely to remain strong barring major changes in the market.

Number of Arlington County Households Earning \$200,000 or more (1) 11,491

Percentage of Households that Currently Own and moved within
Arlington County (2) 3.80%

Number of Households that can afford Homes at the Property 437

22207 Penetration Rate (3) 37%

Potential Market for 22207 from within Arlington County 162

Percentage of Owners that moved from: (2)	% of Total	# of HHS
Within Arlington County	3.80%	162
Different County in Virginia	1.70%	72
Another State	3.70%	157
Abroad	0.90%	38
	100.00%	
Total Potential Demand		429

1. US Census Bureau, 2006 American Community Survey for Arlington County

2. US Census Bureau, 2006 American Community Survey, Geographic Mobility by Selected Characteristics

3. MRIS, 382 homes sold in 22207 divided by 1029 homes sold in Arlington County

Market Area New Home Market

Interestingly, some of the trends begin to reverse when looking at the market for new homes only in the Market Area, particularly relating to supply. To be sure, the market for new homes in an area as small as the Market Area is particularly volatile given the small sample size and comparisons to larger markets can sometimes be tricky. The Market Area figures are, nonetheless, worth analyzing and comparing to the broader markets.

In the categories of units sold, average sold price, and average days on the market, the improving trend noted above generally continues as the market area become more specific. The number of new homes sold and the price has increased substantially from 2006 to 2007. In a period where the average home price in the national market decreased by 1.2% (closer to 10% using the Case-Shiller index which is based on a different calculation method), prices of new homes in the market area increased by 13.4%. What is just as surprising as the year over year trends are the absolute numbers associates with the new home market in 2007. In 2007, the average price of a new home in the Market Area reached almost \$1.7 million – 75% higher than the average price of all homes sold in the market area (including new homes) and more than 500% higher than the national average.

	Units Sold			Average Sold Price			Avg Days on Market		
	2007	2006	% Δ	2007	2006	% Δ	2007	2006	% Δ
Total US	4,939,000	5,677,000	-13.0%	\$266,200	\$269,500	-1.2%	unknown	unknown	
Northern Virginia	7,885	8,576	-8.1%	\$736,328	\$743,371	-0.9%	83	62	33.9%
Arlington County	1,029	1,084	-5.1%	\$804,352	\$767,858	4.8%	64	55	16.4%
Market Area - Total	382	383	-0.3%	\$956,652	\$881,646	8.5%	76	61	24.6%
Market Area - New Homes	47	37	27.0%	\$1,677,987	\$1,479,113	13.4%	157	136	15.4%

Source: Regional and local figures from Metropolitan Regional Information Systems, Inc. (MRIS)
National Figures from National Association of Realtors

Given the recent absorption of new homes over the past three and six months, however, the statistics show a market that is potentially oversupplied. Using the six month moving average of sales per month, it will take 8.9 months to absorb the current inventory level (at the end of January) of 25 new homes –almost as long as the as the overall US market. Using the three month average, however, results in a shrinking months supply for the market – the only market whose supply decreases when using the 3 month moving average. While this may point to improving supply conditions, caution must be used

when trying to extrapolate a trend form this market as its small size increases the volatility of the numbers.

	Market Area (22207)				
	Total US*	Northern Virginia**	Arlington County	Total	New Homes
# of Active Listings (end of Jan. 2008)	3,650,000	4,128	327	87	25
# of Sales per Mo (6 mo mvg avg)	395,500	567.3	76.2	28.5	2.8
# of Sales per Mo (3 mo mvg avg)	343,000	478.7	64.3	19.3	3.3
Months Supply (6 mo mvg avg)	9.2	7.3	4.3	3.1	8.9
Months Supply (3 mo mvg avg)	10.6	8.6	5.1	4.5	7.6

* Existing single family homes only

** Fairfax County, Fairfax City, Arlington County, Alexandria City, Falls Church City

Source: Regional and Local Figures from Metropolitan Regional Information Systems, Inc. (MRIS)

National Figures from National Association of Realtors (non seasonally adjusted)

Given that the homes on the Property will be competing directly against other new homes in the Market Area, a more detailed analysis of this market is warranted, especially in light of the potentially large supply of new homes. **Exhibit 9A** lists all of the new homes sold in the market area from the beginning of 2006 through January 2008 – a total of 85 homes. Included in this table is information such as the final sales price and date, the number of days on the market, the size of the home and the number of bedrooms, as well as information such as the particular neighborhood where it is located and the elementary, middle, and high schools the homes feed into. This information was analyzed to identify the main factors that impact new home prices and the number of days on the market as well as to identify any apparent trends in the market. The ultimate goal of this analysis is to identify potential opportunities in the market as well as to estimate the sales price for the homes to be built on the Property and the likely absorption pace of the homes.

Home Prices and Trends - A closer investigation into the sales prices of new homes reveals different market conditions than evidenced by the 13.4% price increase from 2006 to 2007. One way to further break down the sales prices is to look at the average price per square foot in each year. This metric is arguably a better metric for home prices than the absolute price. Homebuyers, in reality, are paying for what they get and will pay more (on an absolute basis, though not necessarily on a price per square foot basis) for a larger house.

In 2006, the average finished area of sold new homes was 3,446 square feet. By 2007, this average had increased 594 square feet to 4,040– a 17% increase. Taking this a step

further, the average price per square foot for a new home in the market area in 2006 was \$425 per square foot and by 2007 this average price per finished square foot was \$419. So, while the absolute price of new homes sold increased by 13.4% over a one year time frame, the price per square foot actually decreased by 1.4% over the same time period. Looking at it this way, the new home market in 22207 actually performed very similar to the national home market which declined by 1.2% from 2006 to 2007 as measured by NAR.

An analysis of the 25 new homes currently available for sale supports this pricing trend. As shown on the list of listed new homes shown in **Exhibit 9B**, the average list price of new homes currently on the market is just over \$1.7 million, higher than the 2007 average price. The average size of these units, however, is 4,079, resulting in an average list price per square foot of \$418, almost exactly the same price per square foot that was achieved in 2007. That said, however, homes rarely sell for their list price particularly in a nervous market like today. During 2006 and 2007, the average sold price was 4% lower than the list price. Applying this discount to the current asking prices would result in an average sold price per square foot of \$401. It is entirely possible that future prices (at least on a square footage basis) will decrease further, especially if the overall housing market continues its downward or sideways trend.

Home Prices by Location – Even in an area as small as a zip code, variations in price exist in different locations. Some neighborhoods are more desirable than others for a variety of factors, some of which are purely qualitative such as the prestige associated with living in a certain neighborhood and others which can be more readily identified, such as the particular schools that a neighborhood feeds into. To analyze potential price variations by location, each house was plotted on a map of the Market Area and arranged by two separate means. The first map shown in **Exhibit 9C** shows each new home sold between 2006-2007 color coded by sold price, with the location of the Property identified by a red flag. The second map in **Exhibit 9D** shows the same homes but this time color coded by sales price per square foot.

Several items are worth noting on these maps. First, all of the houses that sold below \$900,000 are concentrated in a single area in the southern part of the Market Area. This is the Highview Park neighborhood and is adjacent to the Virginia Hospital Center (formerly Arlington Hospital). Second, there is a cluster of very expensive houses (both on an absolute basis and on a price per square foot basis) just to the east of the Property and surrounded by Glebe Road, Military Road and 26th Street N. This area is the County

Club Hills neighborhood and is directly adjacent to Washington Golf and Country Club. Based on these maps, this is the most expensive location for new homes in the Market Area. To the west of the Property is another cluster of new homes more moderately priced than Country Club Hills. There appears to be little uniformity in pricing in this area. All of Country Club Hills and most of the homes immediately to the west of the Property all share the same schools districts of Jamestown Elementary, Williamsburg Middle School and Yorktown High School.

Based solely on location, it appears that the price per square foot of the homes to be built on the Property should be around average for the Market Area. The homes do not warrant the premium of Country Club Hills nor do they warrant a substantial discount like the Highview Park neighborhood.

Base Price Recommendation – The above location analysis can be used to predict the sales price of the homes to be built on the Property. Although Viridis believes its homes will be superior in design and quality, the Company will not apply such a premium to its estimates at this time. In light of current real estate market conditions, the most prudent course when buying property is to conservatively estimate the sale price of the homes. Although a qualitative (and therefore subjective) analysis may point to a premium for Viridis’s homes, there is little or no objective quantitative evidence to suggest a price premium above the market.

The proposed base price per square foot should be in line with the average price per square foot of the Market Area of approximately \$420 per square foot. This is a rounded estimate based on the 2007 average price per square foot of \$419 and the current list price average of \$418. The result is the following recommended base prices of the proposed homes at the Property, prior to any adjustments based on market conditions or other factors:

	House Type	
	A	B
Finished Square Feet (above grade)	2,880	3,280
Number of Bedrooms	4	5
Base Price	\$420	\$1,209,600
		\$1,377,600

Adjustments to Base Price

Market Adjustment – The residential real estate market conditions, while relatively strong in Northern Virginia, Arlington County and the Market area, are having

an impact on pricing. Although absolute prices are rising, this trend appears to largely be as a result of larger homes while the price per square foot for new homes in the Market Area is declining moderately or holding steady. The current list prices of homes on the market and the historical relationship between the list price and the final sales price would lead one to believe that further price per square foot declines are imminent, barring a substantial change in the relationship between supply and demand. During 2006 and 2007 the average sale price of a new home in the Market Area was \$1,595,795 while the average list price was \$1,661,993. This difference of \$66,198 represents a 4% discount that buyers were able negotiate from of the Seller's list price. It is possible that the negotiating power of buyers over sellers will continue and that this 4% discount is likely to continue. The following adjusts the projected sale price of the homes at Property to account for this potential discount.

		House Type A	House Type B
Finished Square Feet (above grade)		2,880	3,280
Number of Bedrooms		4	5
Base Price	\$420	\$1,209,600	\$1,377,600
Market Discount	4%	(\$48,384)	(\$55,104)
Adjusted Price		<u>\$1,161,216</u>	<u>\$1,322,496</u>

Green Building Premium – Given the infancy of the green homebuilding industry, there is little, if any, history to suggest the magnitude of the premium buyers are willing to pay for green homes. Certainly, the monthly savings in electricity and other expenses warrant a minimum premium if the buyer can be educated about the potential savings. One report prepared by the ERB Institute for Global Sustainable Enterprise at the University of Michigan stated that homebuyers are willing to pay price premium for green homes of up to 5%.³ Additionally, on the commercial side, where there is a substantial amount of research on green building, the rent premium paid by tenants in green buildings is between 3-5%.⁴

Of the 85 new homes that sold in the market are in 2006 and 2007, only one listed green building features in the marketing language that is part of the MRIS listing. This property, located at 2254 N. Upland Street, was on the market for a total of five days and

³ “Residential Green Building Report: A Market Engagement Framework for Builders and Developers.” Jeff Martin, Brian Swett and Doug Wien. ERB Institute for Global Sustainable Enterprise. May, 2007.

⁴ “Green Building SmartMarket Report” 2006 Green Building Issue. McGraw Hill Construction.

sold for a price of \$1,525,000, or \$595 per finished square foot – a substantial premium over the Market Area average and a premium much larger than the 3-5% referenced above. Although a trend cannot be extrapolated from a single sale, this sale does point to the potential of green homes to sell quickly and at a substantial premium. Betsy Twigg, the real estate agent representing the buyer in this transaction, indicated in a phone call that the buyer's appreciated the green features of the home. She attributed most of the value of the home, however, to its location, schools and design.

Although there may be a potential for a larger premium because of the green features of the homes to be built on the Property, initial market research indicates a premium of between 3-5%. Since the potential premium is somewhat of an unknown, it is more prudent to be conservative in this estimate. Using the low end of the range of three percent results in the following premium and Final Adjusted Sale Price for the homes:

Finished Square Feet (above grade)		2,880	3,280
Number of Bedrooms		4	5
Base Price	\$420	\$1,209,600	\$1,377,600
Market Discount	4%	(\$48,384)	(\$55,104)
Green Home Premium	3%	\$34,836	\$39,675
Final Adjusted Price		\$1,196,052	\$1,362,171
Rounded		\$1,195,000	\$1,360,000

The Final Adjusted Price shown above represents the likely final sales price from the homes on the Property. These sales prices are used in the financial forecast in the following section. The listing price for the Property is likely to be higher than these prices to incorporate a cushion for buyer price negotiation and to reflect the superior design and quality of the homes. These prices position the homes well below the average prices of new homes on the market, opening them up to a larger market of buyers who cannot afford the average new home price of near \$1.7 million. This pricing strategy should result in a competitive advantage over other new homes on the market.

Days-on-Market – Besides price, the other critical result of market analysis is the number days a house is on the market before it sells. The element of time is major factor when evaluating a property, especially if borrowed money is being used. The average days on the market for the new homes in the Market Area that sold in the 2006 and 2007 was 147 days. MRIS provides two days-on-market numbers, the first measures the total days on the market at any price and the second measures the total days on the market at

the current price. For example, if a property was on the market for 100 days and then the price was reduced and has since been on the market for an additional 30 days the total days on the market is 130 while the days on the market at the current price is 30. The following analysis applies to the Property uses total days on the market.

Bifurcating this number into the separate calendar years however, shows that the number of days on the market increased from 136 days in 2006 to 157 days in 2007. Additionally, the distribution of days on the market was quite broad. Eleven of the eighty five homes sold in the two year period sold in under ten days while five homes took over a year to sell. The primary reason for this could be that many new homes are listed for sale well in advance of their completion – potentially distorting the averages as most homes are not put under contract until after they are complete. This wide distribution is also not surprising considering the sale prices of new homes ranged from a low of \$750,000 to a high of \$3,150,000. To really understand the days on the market trends and use them to forecast the days on the market and absorption rate for the Property requires a deeper analysis of the numbers.

For each house type and projected sale price, the average days on market for homes that sold within \$100,000 of the projected sale price was calculated, resulting in the following:

Sale Price		# Homes	DOM
Greater than	Less than		
\$1,095,000	\$1,295,000	12	84
\$1,260,000	\$1,460,000	19	169

The twelve homes that sold between \$1,095,000 and \$1,295,000 sold in a relatively consistent time frame. This average should be representative of reality and is substantially lower than the average for the entire new home market in the Market Area. Lower priced homes, all else being equal, are more likely to sell faster because there are more potential buyers. Very few people, for example, can afford a house priced at \$2 million or more so a seller is likely to wait longer for the right buyer to appear.

However, this same analysis shows that for the 19 homes that sold for a price within \$100,000 of the Type B home to be built on the Property, the average days on the market of almost 170 was substantially longer than the market average. Looking at the specific homes reveals that three of these 19 homes took more than a year to sell, with the longest taking 612 days to sell. These homes, which for one reason or another did not sell

quickly, distort the average total days on the market for this group. Removing these three homes from the sample and calculating the average on the remaining 16 homes results in an average days-on-market of 122 days – a much more reasonable spread over the homes in the lower price range. Averaging the total days-on-market for these two price ranges results in an average of 103 days.

With an average time on the market of 103 days and with a total of four homes to sell, it will take approximately 400 days, or 13 months to sell all four homes on the property. Although it is possible that the superior design, quality and the green elements of the homes could increase the demand and result in a substantial faster absorption period, there is little evidence upon which to base this conclusion. Additionally, any assumption regarding a faster sales pace is not consistent with conservative underwriting principles. It is a scenario that must be planned for so the project can take advantage of higher demand but it is not prudent underwriting.

No.	Address	List Price	Sold Price	DOMP	Style	Fin SF*	\$/SF	BR	FB	HB	LB	FP	Gar	Bsmt	YrBlt	Lot Size	Sold Date	Neighborhood	Elem	Middle	HS
1	1614 Stafford St N	\$1,495,000	\$1,495,000	302	Colonial	3,680	\$406	5	4	1	3	3	2	Yes	2005	8,276	1/7/2006	Cherrydale	Glebe	Swanson	Washington-Lee
2	1604 Randolph St N	\$1,299,900	\$1,175,000	146	Colonial	2,785	\$422	5	4	1	3	1	2	Yes	2005	10,454	1/14/2006	Cherrydale	Glebe	Swanson	Washington-Lee
3	3825 24 St N	\$1,295,000	\$1,250,000	71	Colonial	3,892	\$321	5	5	3	2			Yes	2005	9,148	2/6/2006	Dover Balmoral Riverwood	Taylor	Swanson	Washington-Lee
4	5123 27Th Rd N	\$1,145,000	\$1,085,000	177	Colonial	2,800	\$388	5	4	1	3	2	2	Yes	2005	5,227	2/24/2006	Milburn Terrace	Nottingham	Williamsburg	Yorktown
5	6746 25Th St N	\$1,599,000	\$1,575,000	63	Colonial	3,228	\$488	5	4	1	3	2		Yes	2005	11,326	3/9/2006	Berkshire Oakwood	Tuckahoe	Williamsburg	Yorktown
6	1600 Randolph St N	\$1,199,900	\$1,199,900	46	Colonial	2,848	\$421	5	4	1	3	2	2	Yes	2005	10,454	3/10/2006	Cherrydale	Glebe	Swanson	Washington-Lee
7	4615 32Nd St N	\$2,845,000	\$2,727,000	177	Colonial	4,774	\$571	6	5	1	4	2	3	Yes	2005	11,326	3/15/2006	Country Club Hills	Jamestown	Williamsburg	Yorktown
8	3408 Venice St N	\$2,799,000	\$2,675,000	226	Cottage	5,101	\$524	6	5	1	4	4	2	No	2005	15,682	3/15/2006	Country Club Hills	Jamestown	Williamsburg	Yorktown
9	4726 25Th St N	\$1,299,000	\$1,290,000	27	Colonial	3,060	\$422	4	4	1	3	2	2	Yes	2005	8,276	4/3/2006	Country Club	Taylor	Williamsburg	Yorktown
10	3026 Edison St N	\$1,698,000	\$1,675,000	147	Colonial	4,902	\$342	4	4	1	3	2	2	Yes	2005	14,375	4/7/2006	Shirley Woods	Jamestown	Williamsburg	Yorktown
11	2339 Ridgeview Rd N	\$2,088,317	\$2,126,369	52	Colonial	3,710	\$573	5	4	1	3	2	2	Yes	2005	3,920	4/28/2006	Lorcom Ridge	Taylor	Swanson	Yorktown
12	4732 25Th St N	\$1,150,000	\$1,100,000	28	Colonial	2,574	\$447	3	4	1	3	2	1	Yes	2005	9,583	5/26/2006	Lyonhurst	Taylor	Williamsburg	Yorktown
13	3612 Monroe St N	\$2,275,000	\$2,100,000	192	Colonial	4,320	\$486	5	4	2	4	2	2	Yes	2005	18,731	5/30/2006	Bellevue Forest	Taylor	Williamsburg	Yorktown
14	3406 Dickerson St N	\$1,485,000	\$1,450,000	153	Colonial	3,830	\$379	5	4	1	3	2	2	Yes	2005	8,712	5/31/2006	Country Club Hills	Jamestown	Williamsburg	Yorktown
15	5024 33Rd St N	\$1,400,000	\$1,420,000	20	Colonial	3,336	\$426	5	4	1	3	2	2	Yes	2006	10,019	6/12/2006	Williamsburg Village	Jamestown	Williamsburg	Yorktown
16	6309 28Th St N	\$1,549,900	\$1,500,000	206	Colonial	3,269	\$459	5	4	1	4	2	1	Yes	2005	6,098	6/16/2006	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown
17	6106 31St St N	\$1,520,000	\$1,450,000	3	Colonial	3,592	\$404	5	4	1	3	2	2	Yes	2006	8,276	6/22/2006	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown
18	6101 31St St N	\$1,400,000	\$1,375,000	88	Colonial	3,958	\$347	4	4	1	3	2	2	Yes	2006	10,019	6/30/2006	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown
19	2306 Glebe Rd N	\$995,000	\$980,000	235	Other	3,156	\$311	4	4	1	3	2	1	Yes	2006	6,534	6/30/2006	Country Club	Nottingham	Williamsburg	Yorktown
20	2017 Glebe Mason D	\$799,000	\$799,000	141	Bungalow	2,140	\$373	4	3	1	3	1	1	Yes	2006	4,792	7/13/2006	Highview Park	Glebe	Williamsburg	Yorktown
21	1925 Utah St N	\$1,350,000	\$1,382,896	106	Other	3,184	\$434	5	4	1	3	1	2	Yes	2005	11,326	7/24/2006	Williet Heights	Glebe	Swanson	Washington-Lee
22	3404 Utah St N	\$1,999,000	\$1,999,000	12	Colonial	3,337	\$599	5	4	1	3	1	2	Yes	2006	13,939	7/24/2006	Country Club Hills	Jamestown	Williamsburg	Yorktown
23	2011 Glebe Mason D	\$799,000	\$750,000	190	Bungalow	2,140	\$350	4	3	1	3	1	1	Yes	2006	4,792	8/2/2006	Highview Park	Glebe	Williamsburg	Yorktown
24	2018 Emerson St N	\$799,000	\$775,000	267	Bungalow	2,140	\$362	4	3	1	3	1	1	Yes	2006	4,792	8/3/2006	Highview Park	Glebe	Williamsburg	Yorktown
25	2032 Emerson St N	\$799,000	\$760,000	267	Bungalow	2,140	\$355	4	3	1	3	1	1	Yes	2006	4,792	8/9/2006	Highview Park	Glebe	Williamsburg	Yorktown
26	2021 Kenmore St N	\$1,750,000	\$1,650,000	14	Colonial	3,461	\$477	5	4	1	3	1	2	Yes	2006	9,583	8/14/2006	Cherrydale	Taylor	Swanson	Washington-Lee
27	6225 29Th St N	\$1,375,000	\$1,375,000	0	Craftsman	3,142	\$438	4	4	0	3	2	2	Yes	2006	7,841	8/28/2006	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown
28	2378 Fillmore St N	\$3,500,000	\$3,150,000	174	Colonial	5,208	\$605	5	5	2	3	4	3	Yes	2006	20,038	9/13/2006	Dover Balmoral Riverwood	Taylor	Swanson	Washington-Lee
29	4426 26Th Rd N	\$1,949,000	\$1,949,000	16	Colonial	4,158	\$469	4	5	1	4	2	2	Yes	2006	10,454	9/14/2006	Lee Heights	Taylor	Williamsburg	Yorktown
30	4429 36Th St N	\$1,995,000	\$1,850,000	561	Colonial	4,885	\$379	5	4	2	3	2	3	Yes	2005	10,019	10/19/2006	Country Club Hills	Jamestown	Williamsburg	Yorktown
31	3312 Pocomoke St N	\$1,175,000	\$1,165,000	3	Colonial	2,470	\$472	5	4	0	3	1	1	Yes	2005	10,019	10/20/2006	Minor Hill	Nottingham	Williamsburg	Yorktown
32	3513 Ohio St	\$1,795,000	\$1,770,000	90	Colonial	4,002	\$442	5	5	1	3	2	2	Yes	2006	11,326	10/24/2006	Minor Hill	Nottingham	Williamsburg	Yorktown
33	5226 North 26Th Rd	\$940,000	\$925,000	146	Other	2,056	\$450	4	3	1	3	1	1	Yes	2006	5,282	10/26/2006	Country Club	Nottingham	Williamsburg	Yorktown
34	1920 Dinwiddie St N	\$875,000	\$800,000	42	Colonial	3,503	\$228	5	3	1	3	1	2	Yes	2006	14,810	11/16/2006	Highview Park	Glebe	Williamsburg	Yorktown
35	3016 Oakland St N	\$1,649,000	\$1,649,000	6	Colonial	3,769	\$435	5	4	1	3	2	2	Yes	2006	6,970	11/16/2006	Bellevue Forest	Taylor	Williamsburg	Yorktown
36	5265 26Th St N	\$990,000	\$930,000	43	Other	2,140	\$435	4	3	1	3	1	1	Yes	2006	5,663	11/30/2006	Country Club	Nottingham	Williamsburg	Yorktown
37	5242 Yorktown Blvd	\$1,399,900	\$1,350,000	612	Colonial	4,826	\$280	6	4	2	3	4	3	Yes	2006	15,246	12/19/2006	Country Club	Glebe	Swanson	Washington-Lee
38	1527 Randolph St N	\$1,095,900	\$1,120,600	40	Other	3,001	\$373	5	4	1	3	1	1	Yes	2006	6,098	1/5/2007	Cherrydale	Jamestown	Williamsburg	Yorktown
39	5207 32Nd St N	\$1,399,000	\$1,250,000	290	Craftsman	4,112	\$304	5	4	1	3	2	2	Yes	2006	10,019	1/12/2007	Crescent Hills	Taylor	Swanson	Washington-Lee
40	2150 Oakland St N	\$1,199,000	\$1,228,277	11	Bungalow	2,579	\$476	5	4	0	3	2		Yes	2006	7,841	1/16/2007	Maywood	Taylor	Swanson	Washington-Lee
41	4050 Lorcom Ln N	\$2,290,000	\$2,150,000	570	Colonial	3,748	\$574	4	4	2	3	4	4	Yes	2006	8,276	1/31/2007	Lee Heights	Taylor	Swanson	Yorktown
42	2550 Ridgeview Rd	\$1,532,299	\$1,532,299	0	Colonial	3,902	\$393	5	5	0	3	2	2	Yes	2007	23,087	1/31/2007	Dover Balmoral Riverwood	Taylor	Williamsburg	Yorktown
43	3911 Lorcom Ln	\$1,795,000	\$1,720,000	326	Colonial	4,775	\$360	5	5	1	3	1	2	Yes	2006	8,276	2/20/2007	Lee Heights	Taylor	Williamsburg	Yorktown
44	4058 Lorcom Ln	\$2,050,000	\$1,900,000	222	Colonial	3,800	\$500	4	4	1	3	4	3	Yes	2005	7,841	3/9/2007	Lee Heights	Taylor	Williamsburg	Yorktown
45	4035 15Th St N	\$1,095,900	\$1,150,000	105	Colonial	3,300	\$348	5	4	1	3	1	2	Yes	2006	6,098	3/20/2007	Cherrydale	Glebe	Swanson	Washington-Lee
46	1827 Stafford St	\$1,450,000	\$1,365,000	211	Colonial	3,188	\$428	6	4	1	3	1	2	Yes	2006	10,019	3/28/2007	Cherrydale	Taylor	Swanson	Washington-Lee
47	4108 Randolph Ct N	\$2,490,000	\$2,435,000	225	Colonial	5,322	\$458	6	6	1	4	3	2	Yes	2006	18,295	4/16/2007	The Woods at Chain Bridge	Jamestown	Williamsburg	Yorktown
48	5112 Little Falls Rd	\$1,429,900	\$1,410,000	364	Colonial	3,684	\$383	5	4	1	3	3	2	Yes	2007	10,890	4/23/2007	Shirley Woods	Nottingham	Williamsburg	Yorktown
49	2260 Vermont St N	\$1,689,000	\$1,602,578	165	Colonial	3,781	\$424	5	4	1	3	4	2	Yes	2006	10,019	4/25/2007	Lee Heights	Taylor	Williamsburg	Yorktown
50	6023 26Th St N	\$1,695,000	\$1,680,000	174	Craftsman	4,169	\$403	5	5	1	3	2	2	Yes	2007	9,583	4/25/2007	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown
51	5041 35Th Rd N	\$1,775,000	\$1,650,000	124	Colonial	4,568	\$360	5	4	1	3	2	2	Yes	2006	10,454	4/30/2007	Country Club	Jamestown	Williamsburg	Yorktown
52	2366 Edgewood St N	\$2,175,000	\$2,040,000	236	Craftsman	3,667	\$556	6	5	1	3	2	2	Yes	2007	10,019	5/1/2007	Woodmont	Taylor	Swanson	Washington-Lee
53	2033 Stafford St N	\$1,599,000	\$1,678,443	131	Bungalow	4,090	\$410	5	4	1	4	2	1	Yes	2006	7,841	5/4/2007	Cherrydale	Taylor	Swanson	Washington-Lee
54	5135 37Th Rd N	\$1,999,000	\$1,900,000	90	Colonial	3,839	\$495	6	5	1	4	1	2	Yes	2006	18,731	5/4/2007	Williamsburg Village	Jamestown	Williamsburg	Yorktown
55	4105 Randolph Ct N	\$2,150,000	\$2,137,380	32	Colonial	5,017	\$426	5	5	1	4	2	2	Yes	2006	14,375	5/16/2007	The Woods at Chain Bridge	Jamestown	Williamsburg	Yorktown
56	3518 Utah St	\$1,949,000	\$1,850,000	88	Craftsman	3,337	\$554	5	4	1	3	1	2	Yes	2006	13,068	5/21/2007	Brophyll Forest	Jamestown	Williamsburg	Yorktown
57	4102 Randolph Ct N	\$2,385,000	\$2,442,000	0	Colonial	5,463	\$447	5	5	1	3	3	2	Yes	2006	40,511	5/30/2007	The Woods at Chain Bridge	Jamestown	Williamsburg	Yorktown
58	5333 26Th St N	\$1,695,000	\$1,695,000	7	Cottage	4,152	\$408	5	5	1	3	2	2	Yes	2007	12,632	5/30/2007	Country Club	Nottingham	Williamsburg	Yorktown
59	4413 35Th St N	\$2,199,000	\$2,050,000	405	Colonial	4,148	\$494	6	5	1	3	3	3	Yes	2006	10,890	6/1/2007	Country Club Hills	Jamestown	Williamsburg	Yorktown
60	4641 23Rd Rd N	\$1,599,000	\$1,550,000	76	Colonial	4,308	\$360	5	5	1	4	2	2	Yes	2006	7,841	6/6/2007	Country Club	Taylor	Williamsburg	Yorktown

No.	Address	List Price	Sold Price	DOMP	Style	Fin SF*	\$/SF	BR	FB	HB	LB	VP	FP	Gar	Bsmt	YrBlt	Lot Size	Sold Date	Neighborhood	Elem	Middle	HS	
61	4409 36Th St N	\$2,250,000	\$2,100,000	319	Colonial	4,882	\$449	5	6	1	3	1	3	1	3	Yes	2006	11,326	6/12/2007	Country Club Hills	Jamestown	Williamsburg	Yorktown
62	4501 38Th St N	\$1,599,000	\$1,450,000	189	Craftsman	3,954	\$367	6	5	1	3	2	2	2	Yes	2006	6,970	6/15/2007	Arlingwood	Jamestown	Williamsburg	Yorktown	
63	6200 30Th St N	\$1,669,000	\$1,621,500	0	Craftsman	3,386	\$479	5	4	2	3	1	2	2	Yes	2007	9,148	6/15/2007	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown	
64	4636 25Th Rd N	\$1,399,900	\$1,360,000	91	Colonial	2,982	\$456	5	4	1	3	2	2	2	Yes	2007	5,663	6/22/2007	Lee Heights	Taylor	Williamsburg	Yorktown	
65	2550 Greenbrier St N	\$1,100,000	\$1,100,000	21	Other	2,940	\$374	5	3	1	3	1	1	1	No	2007	10,019	6/22/2007	Garden City	Nottingham	Williamsburg	Yorktown	
66	4534 25Th Rd N	\$1,360,000	\$1,360,000	0	Colonial	2,982	\$456	5	4	1	3	2	2	2	Yes	2007	5,663	6/25/2007	Lee Heights	Taylor	Williamsburg	Yorktown	
67	6312 28Th St N	\$1,550,000	\$1,535,000	11	Bungalow	4,564	\$336	5	4	1	3	2	2	2	Yes	2007	8,276	6/28/2007	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown	
68	6010 26Th St N	\$1,449,000	\$1,397,000	79	Cottage	3,218	\$434	5	4	1	4	1	1	1	Yes	2007	9,148	7/10/2007	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown	
69	2548 Ridgeview N	\$1,650,000	\$1,577,500	141	Colonial	3,902	\$404	5	5	1	3	2	2	2	Yes	2007	10,454	7/16/2007	Dover Balmoral Riverwood	Taylor	Williamsburg	Yorktown	
70	5079 Yorktown Blvd	\$1,390,000	\$1,365,000	316	Colonial	4,084	\$334	5	4	1	3	2	2	2	Yes	2006	7,841	7/30/2007	Milburn Terrace	Jamestown	Williamsburg	Yorktown	
71	1721 Taylor St N	\$1,649,900	\$1,600,000	20	Craftsman	3,206	\$499	5	4	1	3	1	2	2	Yes	2007	7,405	8/29/2007	Willat Heights	Glebe	Swanson	Washington-Lee	
72	4645 23 Rd N	\$1,649,000	\$1,555,000	119	Craftsman	4,605	\$338	5	5	1	4	2	2	2	Yes	2007	7,719	9/4/2007	Country Club	Taylor	Williamsburg	Yorktown	
73	2501 Lincoln St N	\$2,450,000	\$2,305,000	335	Colonial	5,211	\$442	5	5	1	3	4	3	3	Yes	2007	18,295	9/10/2007	Dover Balmoral Riverwood	Taylor	Swanson	Washington-Lee	
74	2326 Vermont St N	\$1,975,000	\$1,868,500	42	Craftsman	4,970	\$376	6	6	1	4	2	2	2	Yes	2007	11,326	9/26/2007	Lee Heights	Taylor	Williamsburg	Yorktown	
75	6206 30Th St N	\$1,335,000	\$1,250,000	216	Colonial	3,354	\$373	5	4	1	3	1	2	2	Yes	2006	6,970	10/15/2007	Berkshire Oakwood	Nottingham	Williamsburg	Yorktown	
76	2330 Vermont St N	\$1,975,000	\$1,871,000	140	Craftsman	4,970	\$376	6	6	1	4	2	2	2	Yes	2007	13,068	10/24/2007	Lee Heights	Taylor	Williamsburg	Yorktown	
77	3037 Military Rd N	\$1,395,000	\$1,295,000	134	Colonial	3,173	\$408	5	4	1	3	1	2	2	Yes	2007	9,583	11/6/2007	Bellevue Forest	Taylor	Williamsburg	Yorktown	
78	2639 Roosevelt St N	\$1,349,900	\$1,300,000	62	Bungalow	3,394	\$383	6	5	1	3	1	1	1	No	2007	6,970	11/6/2007	Berkshire Oakwood	Tuckahoe	Williamsburg	Yorktown	
79	4109 Randolph Ct N	\$2,500,000	\$2,474,292	0	Colonial	6,049	\$409	6	6	1	4	3	2	2	Yes	2007	14,810	11/16/2007	The Woods at Chain Bridge	Jamestown	Williamsburg	Yorktown	
80	2544 N. Upland St	\$1,579,000	\$1,525,000	5	Craftsman	2,564	\$595	5	4	1	3	1	1	1	Yes	2007	14,375	12/3/2007	Broyhill Forest	Taylor	Williamsburg	Yorktown	
81	3833 Military Rd N	\$1,448,750	\$1,359,000	353	Colonial	4,070	\$334	6	5	2	3	2	2	2	Yes	2007	11,326	12/4/2007	River Crest	Jamestown	Williamsburg	Yorktown	
82	4425 36Th St N	\$2,500,000	\$2,250,000	181	Colonial	5,611	\$401	5	5	2	3	4	2	2	Yes	2007	10,454	12/11/2007	Country Club Hills	Jamestown	Williamsburg	Yorktown	
83	3133 Piedmont St N	\$2,599,000	\$2,450,000	303	Colonial	6,374	\$384	5	5	3	3	4	2	2	Yes	2007	20,909	12/12/2007	Bellevue Forest	Taylor	Williamsburg	Yorktown	
84	3004 Stuart St N	\$1,499,000	\$1,360,000	395	Craftsman	3,660	\$372	5	4	1	3	2	2	2	Yes	2007	11,326	12/12/2007	Broyhill Forest	Taylor	Williamsburg	Yorktown	
85	3156 Pollard St N	\$2,199,000	\$2,050,000	151	Colonial	5,608	\$366	7	5	1	3	2	2	3	Yes	2007	13,068	1/15/2008	Bellevue Forest	Taylor	Williamsburg	Yorktown	

Source: MRIS

* Arlington County

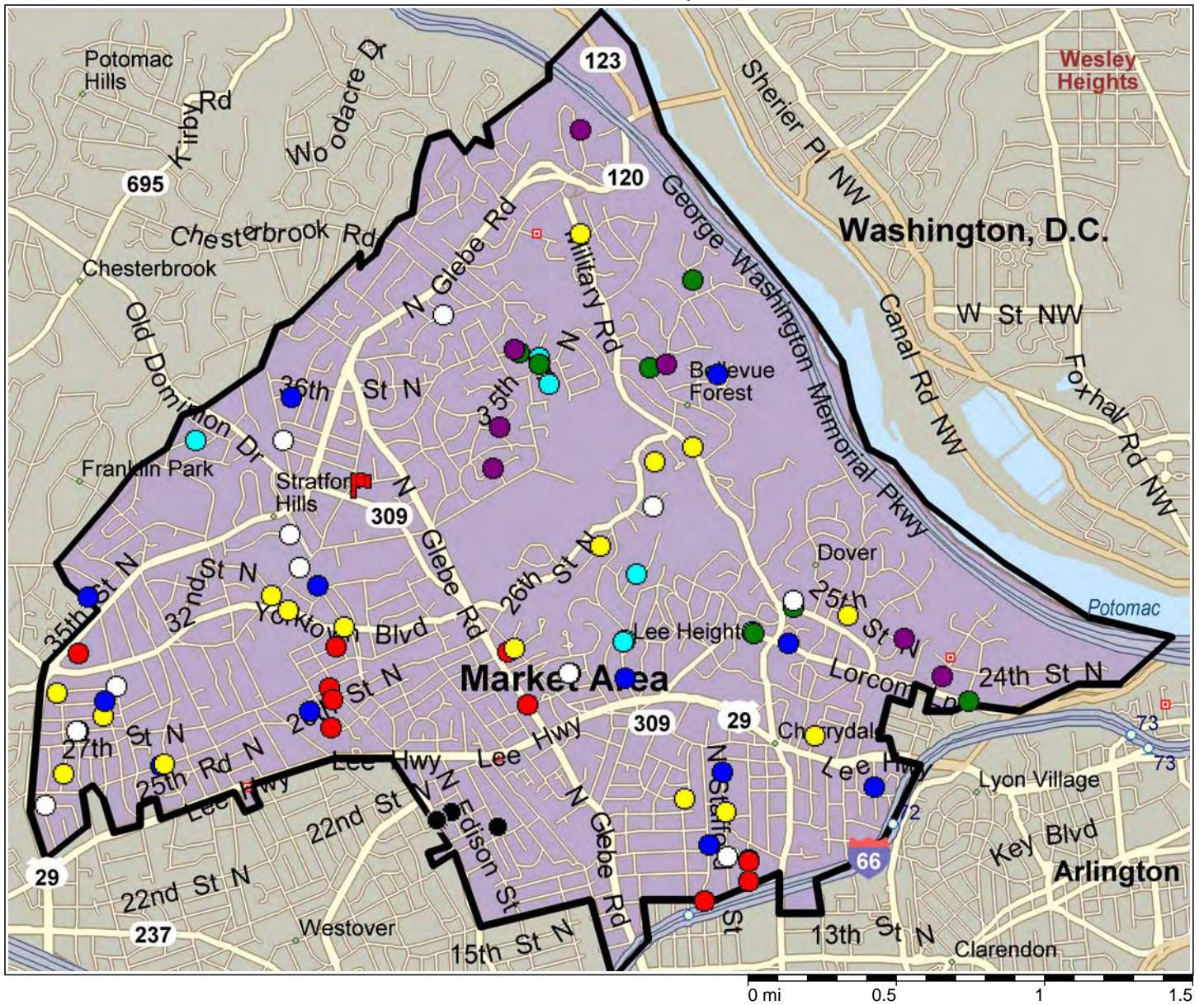
Detail of Available New Homes
Zip Code: 22207

Address	List Price	Fin SF*	\$/SF	Style	BR	FB	HB	Lvls	Fpls	Gar	Bsmt	YrBlt	Lot Size	List
2707 Dinwiddie St N	\$1,849,500	4,699	\$394	Colonial	4	5	1	3	2	2	Yes	2007	9,583	22-Jun-07
1822 Taylor St N	\$1,450,000	2,980	\$487	Bungalow	5	4	1	3	2	1	Yes	2007	7,841	22-Jul-07
4507 35Th St N	\$2,499,000	5,168	\$484	Colonial	6	5	2	3	4	3	Yes	2007	15,246	24-Jul-07
4806A Old Dominion Dr	\$1,750,000			Craftsman	5	5	1	3	1	2	No	2008	29,185	3-Aug-07
6212 31St St N	\$1,545,000	3,934	\$393	Colonial	5	5	1	3	3	2	Yes	2007	8,276	25-Aug-07
3407 Vermont St N	\$2,149,000	4,780	\$450	Colonial	5	4	1	3	1	2	Yes	2007	10,019	12-Sep-07
4934 36Th St N	\$1,539,000	3,383	\$455	Arts and Crafts	5	5	0	4	1	2	Yes	2007	11,326	17-Sep-07
4760 33Rd St N	\$1,695,000			Craftsman	5	4	1	4	1	2	Yes	2008	12,632	3-Oct-07
1706 Randolph St N	\$1,699,000	4,696	\$362	Colonial	5	4	1	3	1	2	Yes	2007	10,454	3-Oct-07
3513 John Marshall Dr	\$1,650,000	4,423	\$373	Colonial	6	5	0	3	1	2	Yes	2007	10,890	5-Oct-07
3301 Harrison St N	\$1,199,000	2,796	\$429	Colonial	6	5	0	3	4		Yes	2006	12,197	7-Nov-07
4445 33Rd St N	\$1,950,000			Arts and Crafts	5	4	1	4	1	1	Yes	2008	10,019	30-Oct-07
2235 Upton St N	\$1,499,000	4,242	\$353	Other	6	6	1	4	1	2	Yes	2007	6,534	22-Oct-07
2521 Vermont St	\$1,795,000	3,301	\$544	Craftsman	5	3	1	3	1	2	Yes	2007	19,602	9-Nov-07
2334 Vermont St N	\$1,975,000	4,970	\$397	Arts & Crafts	6	6	1	4	2	2	Yes	2007	13,068	12-Nov-07
5340 27Th St N	\$1,695,000			Colonial	4	4	1	3	2	3	Yes	2008	15,246	17-Nov-07
2034 Taylor St	\$1,345,000	3,490	\$385	Craftsman	5	3	1	4	2	2	Yes	2006	7,405	18-Nov-07
4400 35Th St N	\$2,050,000	4,886	\$420	Craftsman	5	5	1	3	1	3	Yes	2007	12,197	20-Nov-07
2023 Monroe St N	\$1,449,000	3,797	\$382	Other	5	5	1	4	2	1	Yes	2007	8,276	29-Nov-07
5707 35Th St N	\$1,795,000	3,941	\$455	Craftsman	6	4	1	3	1	2	Yes	2007	10,019	7-Dec-07
6017 26Th St N	\$1,799,000	3,862	\$466	Arts and Crafts	6	5	1	3	2	2	Yes	2007	9,583	4-Jan-08
4101 Randolph St	\$2,050,000	5,321	\$385	Colonial	5	6	1	4	3	2	Yes	2007	11,152	10-Jan-08
3307 John Marshall Dr N	\$1,479,900	4,086	\$362	Colonial	5	4	1	3	2	2	Yes	2008	10,454	19-Jan-08
4800 22Nd St N	\$1,654,000			Colonial	6	5	1	4	1		Yes	2008	8,712	24-Jan-08
1923 Dinwiddie St N	\$1,079,000	2,830	\$381	Arts and Crafts	6	3	1	3	2	1	Yes	2005	9,583	25-Jan-08

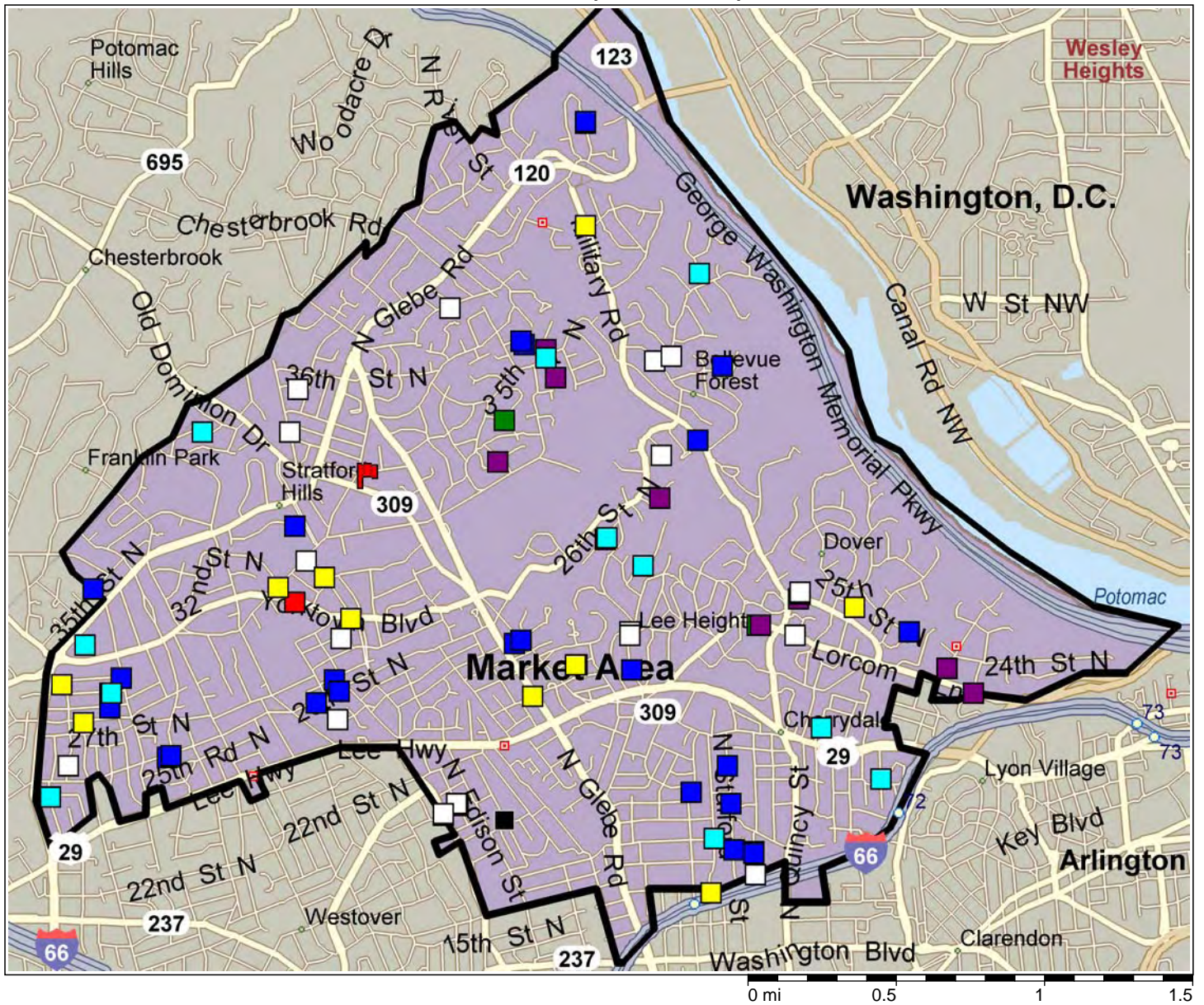
Source: MRIS

* Arlington County

Sold Price Map



Sale Price per SF Map



Price per SF by Street Address



Pushpins

My Pushpins

DEVELOPMENT AND CONSTRUCTION SEQUENCING

Attached as **Exhibit 10A** is a project schedule showing all of the major benchmarks for the design, approval, construction, marketing and sale of the homes on the Property. The schedule is broken down into the following five sections:

Pre-Construction/Entitlement – This phase covers the time period from the start of the design of the Project through the approval of the building permits for the homes. Currently, this period is projected to be a total of 36 weeks. A significant portion of this time, however, is dependent upon the performance of Arlington County staff and the County Board, which is largely out of the control of Viridis. Unforeseen circumstances could substantially delay this process. Fortunately, time during this period is relatively inexpensive since Viridis will not own the Property and therefore will not be paying interest on the majority of the land price. Closing on the land will occur at the end of this phase.

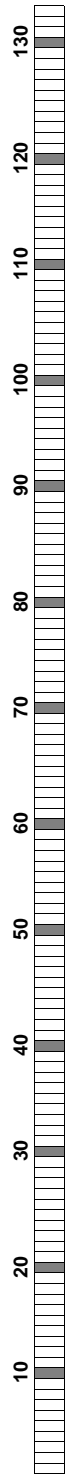
Land Development – Substantially all of the land development for the project will need to be done at the same time, that is, it cannot be staged with the construction of the homes. Additionally, all land development must be substantially complete before construction of the first house can commence. This process is projected to take approximately 13 weeks (3 months).

Construction – The construction of each of the homes on the Property is scheduled to take approximately seven months. Although it may be possible to build the houses faster (particularly the later houses once the construction kinks have been worked out), this is a reasonable estimate of the average time expected. Construction of the first house (Lot 4) is scheduled to begin in week 40. For reasons described in the Marketing Strategy section of this paper, Lot 4 along Old Dominion Drive will be the first house started. The commencement of construction of the remaining units is tied to the sale of the previous units. For example, construction of the second house cannot begin until the first house is sold. This restriction is imposed by the first trust loan and is included in the proposed terms of this loan shown in the following section. This restriction will also reduce the exposure at any one time which is especially important since the first trust financing will include personal guaranties from the principal(s) of Viridis. By having only one unsold house under construction at any given time, the loan balance (and the amount subject to repayment guaranties) will remain at a reasonable level. If the homes sell faster, this schedule can be accelerated.

Sales and Marketing – Once the first house is largely complete and potential buyers can see the home and get a better idea of what they would be buying, sales and marketing efforts will begin in earnest and based on the unit absorption pace calculated in the Market Analysis section of this paper is projected to last for 56 weeks. Although it is possible to begin marketing earlier in the construction process, the sale of homes from plans (and not a finished house) will not enable Viridis to maximize the price for the homes.

Unit Settlements – Settlements on the houses will occur as soon as feasible once the house is sold and construction is complete.

4880 Old Dominion Drive
Project Schedule



Item	Dur. (wks)	10	20	30	40	50	60	70	80	90	100	110	120	130
Pre-Construction/Entitlement														
Preparation of Plans	4													
URD Approval	13													
Subdivision Approval	13													
Land Settlement	1													
Building Permit Approval	6													
Land Development	13													
Construction														
Lot 4	30													
Lot 3	30													
Lot 2	30													
Lot 1	30													
Sales and Marketing	56													
Unit Settlements														

FINANCIAL ANALYSIS

Using the pricing and timing assumptions detailed in previous sections of this paper, a detailed financial pro forma has been prepared for the four unit project at Old Dominion and Little Falls. The summary of the pro forma and detailed cash flow schedule is included in **Exhibits 11A**. To prepare an accurate financial forecast, an estimated budget of all costs is required as well as the terms of the financing arrangements.

Project Budget

A description of each budget category, and the basis for the numbers included therein, follows:

Land – This is the contract price of the land. Land is calculated as a residual value after all other assumptions with regard to cost, timing and income are included. The value of the land is determined based upon these factors and using a targeted profit margin (discussed later in this section).

Land Development – This is the cost associated with developing the land to the point where the homes are ready to be constructed. Land Development includes the cost of clearing and grading, installation of curb, gutter, the alley, all utilities, and the storm water management facility. Land development can vary greatly from project to project, however, there do not appear to be any major issues or complications relating to the development of the Property. The estimate shown on the financial pro forma of \$80,000 per unit (\$320,000 total) is based on experience at other residential development projects.

Direct Construction – Direct construction is the cost of building the homes after the completion of land development. The estimated cost of \$80.81 per above grade finished square foot is based on two comparable homes to be built by Madison Homes in the Falls Church area of Fairfax County, a few miles from the Property. Those homes, which are projected to sell in a similar price range as the homes on the Property are also similar in finish level. The detailed estimates of these homes are included at **Exhibit 11B**. Added to these numbers is a premium to account for the added costs of making the homes at the Property green. The estimates for the added costs of building green mostly range from 0% to 5%. To be conservative, and in recognition that these will be the first green homes built by Viridis, a 5% cost premium is incorporated into the estimate.

Contingency – A 10% contingency on both land development and direct construction costs is included in the pro forma. While a 5% contingency is typical, 10% is used here in recognition of the uncertainty of the land development costs (given the lack of any engineered site plans) and the cost uncertainty related to incorporating green development techniques.

Buyer Option Pool – The assumption used in the pro forma is that buyers will select an average of approximately \$25,000 in upgrades to the homes. These may be in the form of higher finishes, added features, or other changes to the units. These options are projected to cost 70% of the end sale price. The standard features of the house are projected to be rather high so it is not anticipated that options will be a major source of income on this project.

Approval Concessions/Fees – This is an estimate of \$5,000 per unit to allow for certain exactions which can be expected from the County Board associated with their approval of the URD. These may take the form of cash payments or certain on-site requirements that must be included in the development and/or construction of the units.

Predevelopment Expenses – A separate schedule showing all of the costs expected to be incurred during the entitlement and predevelopment phase of the project are included in **Exhibit 11C**. These costs include legal, engineering and architectural expenses associated with the URD as well as application fees payable to Arlington County.

Financing – These costs are associated with financing the purchase and construction of the Property as well as paying insurance and property taxes during the period of ownership. Financing also includes the legal expenses incurred for the project, excluding those incurred during the entitlement phase. A detail of the Financing costs is included in **Exhibit 11D**.

Development Fee – To cover the overhead of Viridis during development and construction, a fee equal to approximately 2.5% of anticipated revenue shall be paid in monthly installments during this period.

Marketing – This includes the preparation of all marketing materials and advertising associated with the Project. The estimate of \$225,000 is based on historical experience with similarly sized projects.

Field Operations – The major components of Field Operations are salaries and burden associated with staffing the project with a project manager and other on-site personnel. A detailed breakdown of the projected Field Operating costs is included at **Exhibit 11D**. Architectural fees are also included in this section. The architectural allowance of \$80,000 is higher than for a normal project of similar size (especially given that there is basically only one unit type on the Property). This premium is to allow for additional costs associated with sustainable design.

Loan Points – This category includes all fees paid to both first and second trust lenders in accordance with their proposed term sheets included later in this section.

Debt Interest – Interest on the first trust loan is typically to be a floating rate over LIBOR. Per the proposed terms of the first trust loan shown below, the projected interest rate is 5.24%. This rate is calculated based on current one month LIBOR of 2.74% plus a spread of 2.5%.

Equity Loan Interest - Interest on the second trust loan is fixed at 18% per the term sheet below.

Overhead Fee – This fee, in conjunction with the Development Fee is paid to the developer to cover overhead expenses. It is also based on 2.5% of the total projected revenue. Payment of this fee is not made until unit settlements where it is paid equally on the settlement of each unit. Payment of the overhead shall be adjusted up or down such that the sum of the Development Fee and the Overhead Fee is 5% of total project revenue.

Settlement Costs – The single largest component of Settlement Costs is the payment of real estate commissions to both the buyer's and seller's brokers. Viridis projects to pay the Seller's broker a commission of 2% on all sales and expects to pay a commission of 3% to all buyers' agents. It is anticipated that all buyers will have their own agents. Miscellaneous closing costs are also included in this category.

First Trust Financing

Below are the proposed terms of the first trust loan to be made for the project which are incorporated into financial pro forma:

Type: Acquisition, Development and Construction Loan

Loan

Amount: \$3,832,500 total loan draws, not to exceed 75% of the appraised value of the completed units.

Land

Advance: Not to exceed 70% of the total land cost.

Interest

Rate: One month LIBOR plus 2.50%, paid monthly in arrears.

Term: 30 months.

Security: First deed of trust on all of the Property and improvements.

Guaranties: Personal repayment guaranties required.

Repayment: To be made at the settlement of each house in an amount equal to 110% of the total loan amount divided by the number of units until the entire loan amount is repaid.

Loan Fee: 1% of the Loan Amount paid at Loan Closing.

Spec Unit

Limit: No more than one unsold unit shall be under construction at any one time.

Second Trust Financing

Below are the proposed terms of the second trust loan to be made for the project which are incorporated into financial pro forma:

Loan

Amount: \$540,000, not to exceed (in combination with the First Trust Loan) 85% of the appraised value of the completed units.

Interest Rate: Fixed rate of interest of 18% per annum, paid monthly in arrears.

Term: 30 months.

Security: Second deed of trust on all of the Property and improvements, subordinated to the Acquisition, Development and Construction Loan.

Guaranties: Personal repayment guaranties likely.

Repayment: To be made at the settlement of each house at par.

Loan Fee: 3% of the Loan Amount paid at loan closing.

The remaining equity requirement of \$60,000 shall be provided by Viridis and/or its principals.

Profitability and Land Price

In general, the minimum acceptable level of profit a developer will underwrite is 12% of revenue. In this case, profit includes all Development Fees and Overhead Fees paid to the developer as well as the residual profit after the repayment of all debt. Given the added risks associated with the current market conditions as well as the degree of uncertainty associated with building green homes, a slightly higher profit margin is required for this project. Using this profitability benchmark, the value of the land can be determined given the known costs, timing and financing terms associated with the project. At a land cost of \$1,500,000, the total profit to the developer is 13.5%. This is shown on the attached pro forma. Acquisition of the land will occur only after the approval by the County Board of the Unified Residential Plan for the Property.

Sensitivity Analysis

Financial pro formas are nothing more than best estimates of the financial results of a project given the known and projected circumstances. It is a given that a project will never perform exactly as projected in the original pro forma. Reality is sometimes better and sometimes worse than original projections. Costs may change, prices may change, and absorption pace may be different from original estimates. With the current profit levels acceptable to Viridis and all investors, the concern is not what happens if things go better than expected but what happens if things go worse than expected. What are the impacts of changes in costs, revenue and timing?

To answer this question, a sensitivity analysis was performed on the pro forma. Two tables are included in **Exhibit 11E**, the first measures the impact on the net margin of the project as the direct construction cost per square foot changes and the sales price changes. Net margin is total project profit (excluding any fees paid to the developer) divided by total project cost. This is a different metric used above in the profitability paragraph. If the current sales price is achieved, the Project will remain profitable even if direct construction costs increase by 20% (\$16 per square foot) to \$96.61 per square foot, a total cost increase of nearly \$200,000. Failure to achieve the projected sale prices for the homes, however, has a very dramatic effect on the financial performance of the

property. If revenue decreases 7.8% (\$100,000 per unit) without an offsetting change in cost, the Project will no longer be profitable.

In short, the financial viability of the project can withstand rather substantial changes in the direct construction costs (or any cost category for that matter) but is very sensitive to even relatively minor percentage changes in revenue. It will be important to continually monitor market conditions as the Project progresses. Since this pro forma is based on sound and conservative underwriting of the estimated sale price and a thorough understanding of the market, adverse changes in the sale prices of the homes should not occur. Further and significant changes to the national and regional real estate markets, or a prolonged recession, will likely increase this risk.

The second table in **Exhibit 11E** shows the impact of an adverse change in the time required to sell (or build) the homes in the project. All else being equal, the time required to sell-out the project can nearly double, from 18 months to 33 months, and the project will still be profitable to all participants. This analysis assumes that extensions to the both loans can be arranged and the lenders do not foreclose on the property at the end of the loan term.

VIRIDIS PROPERTIES, INC.

4880 Old Dominion Drive

General Project Summary/Assumptions			
Total Residential Units			4
Total Project Gross Revenue		\$5,210,000	
<u>Single Family Detached Units</u>			
Number of Units		4	
Average Square Feet per Unit		3,080	
Average Price per SF		\$415	
Average Base Unit Sales Price		\$1,277,500	
Total Revenue - Single Family Detached Units		\$5,110,000	
<u>Options</u>			
Average Options Revenue per Unit		\$25,000	
Total Revenue - Options		\$100,000	
Cost Factor (% of Revenue)		70%	
Total Option Costs		\$70,000	
Utility Company Revenue		\$0	
Analysis Start Date		Jan-09	

Unit Summary			
Type A - 4 Bedroom Unit	2	2,880	\$1,195,000
Type B - 5 Bedroom Unit	2	3,280	\$1,360,000
		3,080	\$1,277,500

A, D & C Loan Assumptions			
Maximum Total Loan Draws		3,832,500	
Maximum Loan Balance		2,280,297	
Loan-to-Value (Total Loan Draws)		75.00%	
Loan Fee	1.00%	\$38,325	
Presumed Finished Unit Value		\$1,277,500	
Repayment Acceleration		110%	
Current One-month LIBOR (4/1/2008)		2.74%	
Spread		2.50%	
Interest Rate		5.24%	

Third Party Equity Loan			
Total Equity	90%	of total	\$540,000
Interest Rate			18%
Fee			3%
Total Interest and Fees			\$182,250
LTV (incl. A, D & C Loan)			83.96%
IRR			22.47%

Owner Equity			
Total Amount	10%	of total	\$60,000

Capital Structure Summary			
A, D & C Loan Draws		\$3,750,257	
Third Party Equity Loan		\$540,000	
Owner Equity		\$60,000	
Total Project Funding (Sources)		\$4,350,257	

Project Sources/Uses			
Total Project Uses		\$4,350,257	
Total Project Sources		\$4,350,257	
Variance		\$0	

Project Budget Summary		per Unit	% of Rev
Land Costs	\$1,500,000	\$375,000	28.79%
<u>Direct Costs</u>			
Land Development	\$320,000	\$80,000	6.14%
Direct Construction	\$993,115	\$248,279	19.06%
Contingency	\$131,312	\$32,828	2.52%
Buyer Option Pool	\$70,000	\$17,500	1.34%
Total Direct Costs	\$1,514,427	\$378,607	29.07%
<u>Indirect Costs</u>			
Approval Concessions/Fees	\$20,000	\$5,000	0.38%
Financing	\$92,600	\$23,150	1.78%
Predevelopment Expenses	\$102,936	\$25,734	1.98%
Development Fee	\$130,250	\$32,563	2.50%
Marketing	\$225,000	\$56,250	4.32%
Field Operations	\$363,300	\$90,825	6.97%
Loan Points	\$54,525	\$13,631	1.05%
Debt Interest	\$181,169	\$45,292	3.48%
Equity Loan Interest	\$166,050	\$41,513	3.19%
Overhead Fee	\$130,250	\$32,563	2.50%
Settlement Costs	\$286,550	\$71,638	5.50%
Total Indirect Costs	\$1,752,630	\$438,158	33.64%
Total Project Costs	\$4,767,057	\$1,191,764	91.50%

Land	
Lot Price	\$375,000
Total Land Price	\$1,500,000

Sales Assumptions	
Sales Pace (# of mos per sale)	3
Settlement Pace	0.3
% of Sales Involving Outside Brokers	100%
Inside Broker (w/o Coop)	2.00%
Outside Residential Broker	3.00%
Closing Costs per Unit (% of Purchase Price)	0.50%
Total Closing Costs	\$26,050

Profitability	
Total Project Gross Revenues	\$5,210,000
Total Project Costs	\$4,767,057
Project Net Income	\$442,943
Net Margin (as a percent of costs)	9.29%

Direct Construction Cost	
Cost per SF (see separate schedule)	\$80.61
Total Project SF	12,320
Total Direct Construction Cost	\$993,115

Viridis Returns	% of Revenue	
Profit	8.50%	\$442,943
Development Fee	2.50%	\$130,250
Overhead Fee	2.50%	\$130,250
Total	13.50%	\$703,443

4880 Old Dominion Drive

PROJECT SCHEDULE																													
Duration	Start	End	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11
Land Development	3 Months	1 Jan-09																											

Construction																													
Lot 1	7 Months	Apr-09																											
Lot 2	7 Months	Feb-10																											
Lot 3	7 Months	May-10																											
Lot 4	7 Months	Aug-10																											

Sales																													
# of Sales	4																												
Per \$ of Sales	1																												
Per \$ of Sales	1																												

USES		check	Total Budget	CTD	CTC																											
1	Land Costs		1,500,000																													
2	Land Development		330,000																													
3	Direct Construction		993,115																													
4	Direct Cost Contingency		131,312																													
5	Buyer Option Pool		70,000																													
6	Approval Concessions/F		20,000																													
7	Financing		92,600																													
8	Predevelopment Expenses		102,936																													
9	Development Fee		130,250																													
10	Field Operations		363,300																													
11	Marketing		225,000																													
12	Loan Points		54,525																													
13	Debt Interest		181,169																													
14	Equity Interest		166,050																													
15	Overhead Fee		130,250																													
16	Settlement Costs		286,520																													
Total Project Build Costs						4,792,207	1,799,140	146,015	147,557	97,003	77,427	77,765	78,104	78,445	78,788	79,130	61,469	61,737	62,007	217,421	91,613	109,513	171,730	189,880	160,929	153,330	95,596	88,520	54,173	39,878	106,758	2,558
Total Project Build Costs (net of O&H & Stim)						4,792,207	-	4,792,207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

VIRIDIS PROPERTIES, INC.
4880 Old Dominion Drive
Direct Construction Cost Budget

Description	Comparable #1 - 4036sf		Comparable #2 - 3159sf	
	Falls Church, VA (Sept. 2007)		Falls Church, VA (Sept 2007)	
	Total Costs	Cost/sf	Total Costs	Cost/sf
WARRANTY COST	\$2,364.00	\$0.59	\$2,364.00	\$0.75
LUMBER MATERIAL	\$21,200.00	\$5.25	\$15,840.00	\$5.01
FLOOR TRUSSES	\$6,427.00	\$1.59	\$4,941.00	\$1.56
ROOF TRUSSES	\$3,134.00	\$0.78	\$5,219.00	\$1.65
STRUCTURAL STEEL	\$1,045.00	\$0.26	\$1,149.00	\$0.36
WOOD STAIRS	\$1,989.00	\$0.49	\$3,297.00	\$1.04
WINDOWS	\$6,843.00	\$1.70	\$6,586.00	\$2.08
EXTERIOR DOORS	\$2,710.00	\$0.67	\$1,888.00	\$0.60
WOOD HANDRAILS	\$2,091.00	\$0.52	\$1,333.00	\$0.42
INTERIOR DOORS	\$3,344.00	\$0.83	\$4,777.00	\$1.51
LOCKS & HARDWARE	\$2,000.00	\$0.50	\$1,800.00	\$0.57
HARDWARE (MAILBOX)	\$75.00	\$0.02	\$75.00	\$0.02
APPLIANCES	\$8,990.00	\$2.23	\$8,990.00	\$2.85
ELECTRICAL FIXTURES	\$500.00	\$0.12	\$500.00	\$0.16
SOILS ENGINEER	\$280.00	\$0.07	\$280.00	\$0.09
SURVEY ENGINEER	\$1,250.00	\$0.31	\$1,250.00	\$0.40
EXCAVATION	\$4,000.00	\$0.99	\$3,500.00	\$1.11
CONCRETE	\$34,691.00	\$8.60	\$30,952.00	\$9.80
LEADWALKS & APRON	\$0.00	\$0.00	\$0.00	\$0.00
MASONRY	\$19,535.00	\$4.84	\$15,865.00	\$5.02
PLUMBING	\$13,960.00	\$3.46	\$12,760.00	\$4.04
CARPENTRY	\$36,000.00	\$8.92	\$29,000.00	\$9.18
INSTALLED CABINETS	\$4,800.00	\$1.19	\$4,400.00	\$1.39
GRANITE	\$3,700.00	\$0.92	\$3,300.00	\$1.04
ROOFING	\$5,530.00	\$1.37	\$5,757.00	\$1.82
SIDING	\$14,039.00	\$3.48	\$9,175.00	\$2.90
GUTTERS & DOWNSPOUTS	\$1,190.00	\$0.29	\$1,015.00	\$0.32
DRIVEWAY	\$4,287.00	\$1.06	\$4,287.00	\$1.36
OVERHEAD GARAGE DOOR	\$1,400.00	\$0.35	\$1,400.00	\$0.44
HVAC	\$13,500.00	\$3.34	\$11,500.00	\$3.64
PRE-FAB FIREPLACES	\$2,065.00	\$0.51	\$2,065.00	\$0.65
ELECTRICAL	\$7,620.00	\$1.89	\$7,080.00	\$2.24
STRUCTURED WIRING	\$650.00	\$0.16	\$650.00	\$0.21
INSULATION	\$4,948.00	\$1.23	\$4,104.00	\$1.30
DRYWALL	\$12,390.00	\$3.07	\$10,430.00	\$3.30
CERAMIC TILE	\$2,200.00	\$0.55	\$2,200.00	\$0.70
ORNAMENTAL IRON	\$700.00	\$0.17	\$700.00	\$0.22
PAINTING	\$11,355.00	\$2.81	\$9,132.00	\$2.89
FINISH CLEAN	\$1,250.00	\$0.31	\$1,100.00	\$0.35
BATH HARDWARE	\$2,100.00	\$0.52	\$2,100.00	\$0.66
HARDWOOD INSTALLED	\$10,057.00	\$2.49	\$9,381.00	\$2.97
CARPET	\$2,800.00	\$0.69	\$2,104.00	\$0.67
LANDSCAPING-SHRUBS	\$2,000.00	\$0.50	\$2,000.00	\$0.63
LANDSCAPING-SEED/SOD	\$3,000.00	\$0.74	\$3,000.00	\$0.95
DIRECT COSTS TOTALS:	\$284,009.00	\$70.37	\$249,246.00	\$78.90
Add: Green Premium	5.00%	\$3.52		\$3.95
Total Direct Construction Estimate (per SF)		\$73.89		\$82.85
Weight		25%		75%
Average		\$80.61		

VIRIDIS PROPERTIES, INC.
Predevelopment Expense Schedule

Legal	\$30,000	
Engineering	\$10,000	
Architect	\$15,000	
Land Deposit	\$100,000	
County Fees	<u>\$21,466</u>	(see schedule below)
Total	\$176,466	
Predevelopment Interest	<u>\$26,470</u>	(see calculation below)
Total Predevelopment Costs	\$202,936	
Less: Land Deposit	(\$100,000)	(applied to Purchase Price at Closing)
Total Predevelopment Expenses	<u>\$102,936</u>	

Avg. Outstanding	80%
# of Months	9
Interest Rate	25%
Predevelopment Interest	26,470

County Fees

	<u>Unit</u>	<u>Measure</u>	<u>Qty</u>	<u>Total</u>	<u>Reference</u>
Unified Residential Development Fees					
Base Fee	\$2,220	application	1	\$2,220	Section 36.G.4.h
Dept of Env. Services Review Fee	\$1,320	application	1	\$1,320	Section 36.G.4.h
Subdivision Plats (Prelim and Final)					
Base Fee	\$800	application	2	\$1,600	Chapter 23-10
Per Lot Fee	\$110	lot	8	\$880	Chapter 23-11
Bond Processing Fee	\$850	bond	1	\$850	Chapter 23-12
Water and Sewer Availability Fee	\$164	dfu	44	\$7,216	Chapter 26-10
Water Connection Charge (3/4" meter)	\$1,600	unit	4	\$6,400	Chapter 26-12
Building Permit Fee	\$500	unit	4	\$2,000	Section 36.C
Demolition Permit	\$200	structure	2	\$400	Chapter 3-5.A
Sediment Control Fee	\$200	unit	4	\$800	Chapter 57-8
TOTAL				<u>\$21,466</u>	

VIRIDIS PROPERTIES, INC.
4880 Old Dominion Drive

Field Operations Budget

	<u>Per Unit</u>	<u>Total</u>
Project Management	\$40,000	\$160,000
Field Temp. Labor	\$5,000	\$20,000
Punch-Out	\$3,000	\$12,000
Cust Svc - Labor	\$2,000	\$8,000
Cust Svc - Materials/ Subs	\$600	\$2,500
Field P/R Taxes	18%	\$28,800 (% of Project Management)
Field Office Trailer		\$3,000
Field Office Utilities		\$8,400
Field Office Equip.		\$1,000
Field Office - Misc		\$6,000
LicFees/PermitSvc		\$2,400
Field Equip. - Rental		\$1,200
Building Supplies		\$4,000
Temporary Utilities		\$6,000
Trash Removal		\$10,000
Green Certification Fees		\$4,000
Architectural Svcs.		\$80,000
Prints		\$6,000
Total		\$363,300

Financing Budget

Appraisals	\$1,500
Loan Settlement Costs	\$1,500
Title Insurance	\$8,000
Recording Fees	\$12,000
Bank Insp Fee	\$2,400
Acquisition/Loan Legal Fees	\$5,000
Construction Legal Fees	\$5,000
Sales Contracts	\$2,500
Organizational Fees	\$200
Acctg Fees	\$7,500
Proj Ins Costs	\$20,000
Real Estate Taxes	\$25,000
Personal Prop/Gross Recpts Tax	\$1,000
HOA Dues	\$1,000
Total	\$92,600

VIRIDIS PROPERTIES, INC.
4880 Old Dominion Drive
Sensitivity Analysis

Net Margin Sensitivity to changes in Base Unit Sale Price and Direct Construction Costs

Const Cost per SF	Average Base Unit Sales Price									
	\$1,027,500	\$1,077,500	\$1,127,500	\$1,177,500	\$1,227,500	\$1,277,500	\$1,327,500	\$1,377,500	\$1,427,500	
9.29%										
\$76.61	-15.70%	-10.62%	-5.42%	-0.08%	5.39%	10.61%	14.33%	18.03%	21.69%	
\$78.61	-16.18%	-11.13%	-5.96%	-0.67%	4.76%	9.95%	13.65%	17.33%	20.97%	
\$80.61	-16.65%	-11.64%	-6.50%	-1.24%	4.15%	9.29%	12.98%	16.64%	20.26%	
\$82.61	-17.11%	-12.13%	-7.04%	-1.82%	3.54%	8.65%	12.32%	15.95%	19.56%	
\$84.61	-17.57%	-12.63%	-7.57%	-2.38%	2.93%	8.01%	11.66%	15.28%	18.86%	
\$86.61	-18.03%	-13.12%	-8.09%	-2.94%	2.34%	7.38%	11.01%	14.61%	18.18%	
\$88.61	-18.48%	-13.60%	-8.60%	-3.49%	1.75%	6.75%	10.37%	13.95%	17.50%	
\$90.61	-18.92%	-14.08%	-9.12%	-4.04%	1.17%	6.14%	9.73%	13.30%	16.83%	
\$92.61	-19.36%	-14.55%	-9.62%	-4.58%	0.59%	5.53%	9.11%	12.65%	16.17%	
\$94.61	-19.88%	-15.01%	-10.12%	-5.11%	0.02%	4.93%	8.49%	12.02%	15.52%	
\$96.61	-20.51%	-15.48%	-10.61%	-5.64%	-0.54%	4.33%	7.87%	11.39%	14.87%	

Net Margin Sensitivity to changes in Sales Pace

Total Sell Out Period in Months (from Start of Marketing to Final Settlement)			
	18	21	24
	9.29%	8.35%	7.41%
Net Margin			
	33	30	27
	4.44%	5.38%	6.47%

MARKETING STRATEGY

Based on market research, Viridis Properties has identified a market niche of building green homes in the 22207 zip code in Arlington County. There appears to be both adequate demand for new homes in the market as well as the potential to create additional value by incorporating sustainable design features into the homes. Additionally, through market research, a particular segment of the home buying market has been identified as the target market segment – a wealthy dual-income family with kids. The question now is two-fold: first, what is the message about the homes that Viridis wants to convey to the potential buyers and, second, how is this message conveyed? How these questions are addressed will play a very large role in determining the success of the Project and the Company. In addition to building a superior product, it is imperative that this message is clearly communicated to the intended market.

The basic message Viridis seeks to convey to the market is that buying one of its homes enables buyers achieve a higher quality of life. This message should be conveyed to potential buyers by focusing on the following qualities about the project:

Location – For good reason, the benefits of the North Arlington location of the Property have been addressed numerous times in this paper. The location of the Property is the number one source of value to homebuyers and these benefits must be reinforced to the market. The character and prestige of the North Arlington neighborhood, the quality of the schools, and the proximity to both job centers and amenities are the key components of location that must be conveyed to the market. The implication is that Buyers can increase their quality of life by sending their children to some of the best public schools in the state, by shortening their commute to work and enabling the parents to spend more time with their families, and by having world class amenities within a short distance from their new home.

Quality of the Homes – Buyers in this price range have very high expectations about quality. This includes the quality of the design, the workmanship and the people involved in each step. The job of Viridis is to convince buyers that its homes are of superior quality to the competing new homes they are surely looking at in making their decision to buy. The best way to do this is simply by letting them see the finished product for themselves and experience the quality firsthand. By doing so they see the quality of the features, the attractiveness of the exterior and interior of the houses, and how an open informal floorplan that combines the kitchen, eating and family rooms into

a continuous space increases their quality of life. An important component of this message is that quality is not synonymous with size and that an oversized house is not superior to a right-sized house of higher quality and finish. Nonetheless, the word “small” should not be used in describing the new homes so as to avoid creating a negative impression in the minds of potential buyers.

Green Features – One of the main aspects of quality that Viridis will focus on is the environmentally friendly design and construction. To be sure, a green home of inferior design and construction quality and in an inferior location is not likely to be successful. However, with the homes already offering first rate location and quality, including sustainability in the message is intended to further enhance the desirability of the homes and encourage buyers to select Viridis over competing builders and projects. To be consistent with the overall message of improving quality of life, communication to potential buyers should focus on the health benefits of a green home as well as the positive impact that the homes have on the greater environment. In other words, buyers must be convinced that a green home will improve their quality of life directly by improving their health and enabling them to feel good about “doing the right thing”. Using RCLCo’s market classifications referenced earlier in this paper, the goal is to attract both the Forest Green and the Healthy Greens. Although it is important to convey the message that green homes will reduce their energy bills, buyers are not likely to be convinced to pay any meaningful premium for green homes based on any pay-back period calculation. Rather, a better message should state that a green home uses substantially less energy than a standard home, resulting in a positive impact on the health of its inhabitants, the environment and their pocketbook.

In addition to communicating the benefits about green homes, it is also important to define green homes. Both the RCLCo and McGraw-Hill Construction market research referenced earlier in this paper refer to homeowner education as a substantial hurdle that must be overcome for green homes to be successful. Without getting overly technical, Viridis must take it upon itself to show potential buyers what the particular green features of the house are and how they improve the health of the inhabitants and the environment. A major component of this is educating the brokerage community about green homes so they can convey this message to homebuyers.

With the message established, the question now becomes how to convey it to the home buying market. Viridis must ensure that the message is clearly communicated and that it reaches the intended audience. This is complicated by the limited resources of Viridis

and the small size of the project. Viridis does not have the ability to launch a major advertising and public relations campaign extolling the benefits of its green homes. The Company must be more creative to reach its market.

One of the easiest and least expensive ways to garner interest in the project is by placing a sign on the site facing Old Dominion Drive. Although the frontage on Old Dominion was cited as a weakness of the Property in terms of creating a desirable site plan, this frontage is surely a strength in terms of visibility. The approximately 16,000 cars that pass the site each day represent a large pool of potential buyers. Since most of these people pass the Property on their way to and/or from work, buying a home in this location would surely shorten their commute. Initially, this sign would advertise a very brief message about the homes to be built on the Property. Viridis would collect information about the interested persons and communicate additional details about the Project. As more information is made available and sales and marketing begin in earnest, each of these people will be updated and invited to take a closer look.

Another method of reaching a very large potential audience is through the internet. A quality website is vital to convey information to potential buyers about the Project and the homes. Information should include drawings and floorplans of the houses and site and information about the neighborhood and the quality of the homes to be built (e.g. a description of interior finishes). Additionally, the website can serve as an educational tool to teach buyers about green homes and their benefits. Numerous articles about the environmental movement and green buildings are printed in a variety of publications. Links to these articles can be posted and continuously updated. In addition to educating the buyer, this also creates a reason for them to revisit the web-site again and again looking for changes. The website can serve as a template for future homes to be built by Viridis.

Advertising in *The Washington Post* or other local and regional newspapers is an effective way to spread the word about the Project and reach an audience that may not otherwise have heard about it. Unfortunately, advertising is also very expensive, especially if that cost can only be spread over four homes. For this reason, advertising the site in various publications will be minimal. Weekly advertisements are not feasible but an occasional ad focused around a specific event is an excellent way to draw traffic to the Property. For example, once the first house is completed and open to the public, Viridis will run advertisements about the open house event. The objective is to attract as large of an audience as possible to the house and create some “buzz” in the market.

Unlike further out suburbs which are dominated by large subdivisions of new homes, Arlington real estate is predominantly a re-sale market. As such, there are no dominant builders that control the market. It is largely the residential brokerage community that handles residential transactions. Given their large role in the market, Viridis must reach out to the brokerage community and convey the message about the Project to them directly. This is probably the most important method of spreading the message about Viridis Properties and its homes. Unlike many of the larger national builders who tend to shun outside brokers to avoid paying their commission, Viridis cannot afford to do this and must embrace the brokerage community and encourage them to bring interested homebuyers to the Property. Buyers rely heavily on brokers to guide show them homes and any alienation of brokers by Viridis would be counterproductive to getting its message out. Two ways to engage brokers is by mailing them marketing literature about the project and hosting broker lunches at the Property once the first house is complete. It is also important that Viridis seek to educate the brokerage community about green homes and their benefits. There is likely a large education gap about green homes among brokers and by closing this gap, they can in turn educate the buying public about green homes and how they increase quality of life.

To sell the homes, Viridis will hire an independent broker to represent Viridis and the Project. This person will be the primary contact for all of the sales and marketing activity at the Project – in other words, the public face of the Project. As such, selecting the right person is critical. In addition to having substantial experience in selling new homes, the sales agent must be tied into (or preferably a member of) the residential brokerage community in North Arlington. These prerequisites are essential and this person must then receive an in depth education about green homes. It will be the responsibility of the sales agent to be an authority on green homes and to educate potential buyers and brokers. This person will be compensated by commission at the time each unit settles.

Potential Marketing Weaknesses/Threats

There are two potential hurdles that Viridis must address when marketing the Project for sale. The first relates to the weak housing market and the other relates to the inexperience of lack of a successful track record for Viridis.

First, homebuyers are increasingly nervous about buying a new home in the current real estate market. The popular press has provided seemingly unending coverage about the

weakness of the national and regional housing markets. Home prices are falling nationally and regionally and this makes buyers nervous. Just as people were desperate to buy homes during the recent boom to as not to miss out on price appreciation, potential buyers are reluctant to buy a home now for fear that prices might drop further. To address this issue, Viridis must seek to educate both buyers and brokers (to the extent brokers are unaware) about the relative strength of the Arlington housing market. The data cited in the Market Analysis section of this paper indicates that home prices are still rising in Arlington and in the Market Area and this research must be communicated to buyers to encourage them to buy and that they are not buying into a rapidly declining market.

Second, some potential buyers may not be willing to buy from Viridis since this is the first project built by the Company. The “inexperience” label may lead some buyers to believe that the quality of the homes will not be acceptable. This is a valid concern on their part. Viridis is an unknown company without a successful track record of quality homes and satisfied customers. To address this issue, Viridis will pursue a partnership with another homebuilder that has a long and distinguished track record of successful projects. This partnership can be communicated to the public through project marketing literature. For example, the Project may be advertised as built by “Viridis Properties, in conjunction with XYZ Builders.” A description of the partner and reference to their previous projects will be included in the marketing literature. In addition to assuaging the concerns of potential homebuyers, this partnership may yield other benefits to Viridis as described in the Implementation Plan section that follows.

Company Branding

It is important to keep in mind Viridis is not simply marketing this project, but is also seeking to establish itself in the real estate market as a leading builder of quality green homes. The success of the first project will go a long way toward establishing that reputation in the market. This is a key reason why it is important to embrace the brokerage community on this project. By creating goodwill with brokers, they are more likely to show future Viridis homes to their clients and share with their clients their opinion of the reputation of the Company. Further, this goodwill may lead brokers to call on Viridis when they are selling property upon which Viridis could new homes.

To help establish this reputation and name recognition among brokers and potential homebuyers, the Viridis name and logo must appear prominently on all literature prepared by the Company. Additionally, information should be provided that includes

background about the Company and its mission to build green homes. A similar strategy should also be employed on the internet. Instead of creating a website solely for the Project, Viridis will create a company website which will then have links to all present, future and past projects. All signs, newspaper advertisements, and project literature for this or any future projects will direct interested parties to the Company's main website where they can find information about the Company, its mission and goals, educational material about green homes and their benefits. The message of improving homebuyers quality of life should be incorporated into all aspects of the Company's website. From this website, users can then view information about each project Viridis is building.

Sequence and Timing

Immediately after approval by the Arlington County Board of the Unified Residential Plan for the Property, a sign should be placed on the Property advertising homes and including a "Coming Soon" message. Once the plans are finalized and completed, this information can be used to create a website for both the Company and the Project. It will likely be most cost effective to create a single website at once than to create a Company website and then add information about the Project. After substantial completion of land development activity, construction of the first house will begin. Lot 4 will be the first house built on the site. Lot 4, facing Old Dominion Drive, is the most visible house on the Property and will encourage the most traffic. Additionally, since Lot 4 fronts onto Old Dominion is will likely yield the lowest price of all of the four homes. This enables Viridis to save the best homes for last and potentially realize higher prices for those homes.

Once the first home is complete, sales and marketing will begin in earnest. Although it is possible to begin selling the homes before construction is complete, having a finished home enables buyers to experience the homes firsthand. Given the current conditions of the housing market and the price point of the homes on the Property, it is not likely that buyers will enter into a contract without being able to walk through the finished product. Additionally, since education about green homes is a major hurdle to overcome for success, enabling potential buyers to see the green features directly will go a long way toward educating them about green homes and their benefits.

The home will host an open house to the public with advertisements for the open house running in various local newspapers. Additionally, Viridis will host a reception at the completed home for brokers only to give them a first look at the house and create interest in the houses among the brokerage community. As contracts are accepted on the homes,

construction of additional units can begin as long as not more than one unsold house is under construction (or completed) at any one time in order to comply with the loan covenants. Pricing will be continually evaluated and adjusted based on interest in the homes and contracts received.

COMPANY STRUCTURE

Legal Structure

Viridis Properties will be set-up as a corporation and will be the managing member of each of the project level limited liability companies (LLC). For each project that Viridis builds, a separate LLC will be created. Each LLC will be the owner of the Property as well as the borrower under any and all loans made for the benefit of that project. The primary reason for doing this is to isolate the potential liability associated with any one project. For example, if Viridis is building two projects at the same time (each owned by a separate LLC) and for some reason one the projects fails and the lender forecloses on the property, the other project can continue without direct adverse consequences. This would not be the case if the projects were owned by the same entity. Similarly, if a homeowner from one project is dissatisfied and sues the owner, as long as other projects are owned by a separate entity they should not be at all impacted by the outcome of this lawsuit.

Another reason for creating separate entities for each project is for accounting purposes. Each project is likely to have a slightly different ownership structure and different lenders and investors. Keeping separate books and separate accounts ensures that the assets of one entity are not commingled with the assets of another. In addition to Viridis Properties as the managing member of each entity, the other members will include the principals of Viridis and any potential outside investors and/or partners. Viridis Properties will serve as the general contractor for each project and will hire the subcontractors on behalf of the individual LLCs. None of the project entities will have any employees; any and all employees would be hired by Viridis Properties.

Personnel Structure and Requirements

Initially at least, Viridis will need to be managed on a shoestring budget. With limited resources, the Company cannot simply go into the marketplace and hire the employees needed to perform the required tasks. Rather, it must be selective in choosing the right people and those people must be prepared to perform multiple tasks. Fortunately, the job market in residential real estate is favorable right now to employers. Significant lay-offs by larger builders have created an excess of qualified persons looking for employment opportunities.

Viridis Properties will be run by Andrew Rosenberger. Mr. Rosenberger will be responsible for finding, acquiring and entitling land for future projects as well as

coordinating the financial and business management of the projects and the Company. The business plan Mr. Rosenberger executes will be based on the findings and recommendations of this paper. Viridis, however, will need to find someone to lead the development and construction side of the business. This person's primary responsibilities will be managing the development and construction of the units and arranging and coordinating all sub-contractors. Additionally, this person will be instrumental during the design and entitlement phases of the Property and all future projects. In addition to meeting the market expectations of the target market, all design decisions must be coordinated with construction to determine their feasibility and budget impact.

Selecting the right person for this job is critical. This person must work extremely well with Mr. Rosenberger as their duties will continually overlap during all phases of the pre-construction, construction and marketing. Additionally, since Viridis will have limited resources to pay this person a competitive salary, they will likely be made a partner in the projects and be compensated depending on the financial performance of the project. This person must wholly buy into the concepts of the business plan contained in this paper. Viridis will also depend heavily on third party consultants such as attorneys, architects, engineers, brokers, and others. As the company grows, additional personnel can be added.

Development Partnership

As mentioned in the Marketing Strategy section of this paper, Viridis will seek to partner with a larger more established builder. From a marketing standpoint, this partnership addresses any concerns in the market about Viridis and its track record, or lack thereof. Such a partnership may also be beneficial for several other reasons. First, the partner can act as a consultant to Viridis and share its expertise in all aspects of the development process. Second, the partner could provide back-office support to Viridis to lessen the administrative burden on Viridis's principals and enable them to focus on the larger issues. For example, the partner could handle the accounting functions of Viridis's projects, preventing Viridis from hiring a full or part time accountant and enabling Viridis to adopt the partner's accounting framework and leverage its investment in accounting infrastructure. The partner may also provide Viridis with office space and access to items such as a conference room for meeting, a copier, internet access, etc.

This partnership may also help address the inexperience issue in the eyes of lenders and investors. By partnering with a larger builder, lenders and investors are likely to look

more favorably on lending money to Viridis. Although the main underwriting criteria for any bank is going to be the Property and business plan, having a larger builder as a partner should enable Viridis to negotiate more favorable lending terms than if it was just seeking to borrow money on its own. Although Viridis will not be looking to the partner to guarantee the loan in any way, having the support and backing of a well-established and more substantially capitalized partner will go a long way toward reducing the perceived risk of lending money to Viridis. Lower risk to the lender increases the potential of obtaining a loan at a lower interest rate or with some limit on the personal repayment guaranties required by the bank.

Any partnership, of course, will not be free to Viridis. At the very least, the partner will expect to receive a participation in the profit of the eventual job and may require. Additionally, in exchange for any back-office support and office space rental, the partner will also likely require a portion of the Development and Overhead Expenses paid to Viridis over the course of the project. All of this, of course, dilutes the potential profit that the owners of Viridis will recognize upon the completion of the project. This lower potential profit, however, can be easily offset by reducing the amount of risk Viridis is taking and by reducing the administrative burden of the project. Selecting the right partner will be critical to the success and growth of Viridis.

IMPLEMENTATION PLAN

The first step in implementing the business plan for Viridis is tying-up the Property with a contingent contract of sale. As referenced earlier in this paper, the acquisition of the Property must be contingent upon the approval of Unified Residential Development by Arlington County. Such approval must be beyond any applicable appeals periods. Additionally, before any cash deposit is posted into escrow for the acquisition, Viridis must have a 60 day (minimum) feasibility study period during which it can perform its due diligence on the Property and determine the likely feasibility and cost of obtaining approval from Arlington County. The primary activities to be performed during the feasibility study period are:

- Secure Equity Capital – meet with potential investors to secure a commitment with acceptable terms for capital to fund the initial deposit on the Property as well as to provide equity capital for the development and construction of the Property;
- Create a Partnership Agreement with Another Builder – this should be done prior to (or simultaneously with) meeting with potential lenders and securing the required equity capital as this relationship will be instrumental in attracting financing and securing the most favorable terms,
- Title Insurance Commitment – to confirm that title to the Property is good and marketable and that nothing in the chain of title would prevent the development of the Property as proposed;
- Meet with Lenders – while a lending commitment is not likely during the feasibility study period, meeting with lenders gives Viridis the opportunity to gauge their interest in the Property (and their concerns) and to put the Project on their radar screen as a future potential loan;
- Environmental Analysis – to confirm that there are not environmental problems on the Property that would prevent development or add substantial cost (e.g. leaking underground storage tanks);
- Soils Analysis – to confirm that the soil on the site is acceptable to support the proposed development without any special measures;
- Create a more detailed site plan – work with an engineer/land planner to create a more detailed site plan consistent with the site plan contained in this paper, this site plan shall be used to estimate the actual cost of land development;
- Meet with Land Use Attorneys – to better understand the entitlement process and to obtain an estimate of the cost of going through the entitlement process;

- Meet with Arlington County Planning Staff – to inform them of Viridis’s plans for the Property and solicit their initial feedback on the site plan and the process involved in going through the URD approval, also to identify any staff “hot buttons” that need to be addressed in the application;
- Meet with Surrounding Civic Associations – present the Civic Associations with preliminary plans for the Property to solicit comments and identify any potential opposition to the Project;

Satisfactorily completing each of these items is essential to moving forward at the end of the feasibility study period and posting the cash deposit for the Property. At all times during the feasibility study period there must be a continuous feedback loop to the financial pro forma. The cost or pricing impact of each item must be incorporated into the financial model and sensitivity analysis must be continuously run to fully understand each item’s potential impact on the financial performance of the job. Additionally, developments in the national, regional and local real estate markets must be continually monitored and any adverse changes in the marketplace must be incorporated into the financial model.

Upon the expiration of the feasibility study period, Viridis will have several options. First, it can accept the terms of the contract and post the required deposit. If this option is selected, which assumes a satisfactory conclusion to all due diligence items, then Viridis will immediately begin developing more detailed plans to be submitted to Arlington County for its URD application. Second, if it has not yet completed its due diligence, Viridis can request an extension which may or may not be accepted by the seller. Third, based on its conclusions from its due diligence analysis, Viridis can request an amendment to the existing terms of the contract (e.g. a price reduction based on higher than anticipated costs). Lastly, Viridis can cancel the contract if it appears that the development of the Property is not physically or economically feasible. In both the second and third options, Viridis must be prepared that the seller will not negotiate a change to the contract and therefore the contract must be cancelled. Thus, it behooves Viridis to complete all of its analysis during the feasibility study period.

The development of the Project is the first building block for Viridis as it seeks to grow its business and become a recognized leader in green homes in the Washington Area. The success of the Project will go a long way toward establishing a track record for Viridis upon which it can build to create this reputation.