
INTEROFFICE MEMORANDUM

FROM: KRISTIN BEAVER – TOWN OF CLARENCE PLANNING/ZONING INTERN MICHAEL HUTCHINSON – TOWN OF CLARENCE JR. TOWN PLANNER
SUBJECT: ANALYSIS OF SHORT AND LONG TERM COSTS AND BENEFITS OF VARIOUS HOME TYPES
DATE: JUNE 7, 2013

EXECUTIVE STUDY

There is a large variety of housing types available in the Town of Clarence. Three that we examined are upper-middle class subdivisions, condominiums, and energy efficient houses. Specifically, we looked at Waterford Estates as an upper-middle class subdivision, Amber Meadows as condominium housing, and Rivera Greens as a complex of energy efficient houses. We choose these subdivisions because they are all relatively new and could find houses of similar characteristics in each neighborhood.

All of these home types have their financial downsides. In a typical upper-middle class neighborhood, such as Waterford Estates, you will have to pay a Homeowner's Association (H.O.A.) Assessment Fee. This Assessment Fees goes towards maintenance, repair, and replacement of common areas (i.e. open spaces, gazebos, parking areas, etc.). At Waterford Estates, the fee is \$300 per year. At Amber Meadows, residents must pay a Condominium Association Fee. These Association Fees go toward maintence, repair, and replacement of common areas. Unlike regular subdivisions, condominium owners do not own any exterior property. This Association Fee thus takes care of all outside work (i.e. lawn care, snow removal, etc.). As a result, Association Fees are much steeper than the average H.O.A. Fee. The average Association Fee for Amber Meadows is \$125 per month, or \$1,500 per year. At Rivera Greens, you will have to pay no member's fee. However, it is expected that residents at Rivera Greens will have to pay more for their home due to the cost of the expensive energy efficient products.

Our hypothesis is that energy efficient housing will be the most cost effective in the long run because of tax incentives and little to no utility bills.

METHODOLOGY

First, we found the average home prices for a 2500 ft² newly built subdivisions, condominiums, and energy efficient "net zero" homes. We looked at a range of homes that had square footages between 2400 ft² and 2600 ft². We obtained this information by using *The Town of Clarence Online Assessment Roll System*. After obtaining all the assessments for homes in the three neighborhoods with square footages between 2,400 and 2,600, we found the mean for each type of home. We took 10% off of the average home value to find what a typical down payment would be. Then, we subtracted the down payment from the mean to get what the loan principle would be. We assumed the average mortgage holder would obtain a loan at a 4% interest rate on a 30 year fixed mortgage. We used this information to find what the monthly payments needed to be.

We found the average electric bill for the state on the *U.S. Energy Information Administration* website. The average electric bill was \$108.41. We found the average gas bill on the *Central Hudson Gas and*

Electric Corporation website, which supplied information for various providers. We used the average for a National Fuel customer, which was \$162.57. The average utility bill then comes to \$270.98 per month, or \$3,251.76 per year. We used this number to estimate the average utility bill for a resident of Amber Meadows and Waterford Estates. To estimate the average utility bill for a resident of Rivera Greens, we consulted the *Rivera Greens* website, which cites the average utility bill for a homeowner in this neighborhood as being \$1 for electric and \$1 for gas, or \$24 per year.

To figure out what the outside fees would be for Amber Meadows, we consulted the *Rubino Brothers* website, which states that Association fees for their community is \$125 per month, or \$1,500 per year. To find the outside fees for Waterford Estates, we contacted Susan Ballard, the Regional Sales Director for Essex Homes. She informed us that the residents of Waterford Estates pay \$300 per year in Homeowner's Association Assessment Fees. This number excluded any Special Assessments that one may have to pay. Special Assessments are fees imposed on residents when the reserve funds are not sufficient to cover a major expense. We did not include, or estimate, this amount since it varies so widely and may not be given out for many years.

Since Association Fees cover all maintenance for the grounds of condominium owners, we estimated that the residents of Waterford Estates and Rivera Greens would spend a similar amount (\$125 per month) on lawn maintenance.

In order to get information on tax deductions for Rivera Greens, we consulted the *Natale Building Corporation* office. They informed us that energy efficient homes are eligible for two different types of tax incentives (one from the Federal Government and one from New York State). The Federal Government is willing to give 30% of the cost to install the energy efficient unit back when filing for your income taxes. Natale Builders informed us that the average cost to install solar panels on a home is about \$15,000 and the average cost to install a geothermal unit is about \$20,000. That makes the federal tax incentive \$10,500 for the two. The state caps the incentives for solar panels at \$5,000 and for geothermal units at \$5,125. That makes the total tax incentives for the state out to be \$10,125. These taxes can be used in conjunction when filing your income taxes, which means that total for New York State and Federal Government tax incentives, is \$20,625. These taxes may have to be rolled over for a year or two, depending on your income tax situation. We lumped all the incentives into the first year because the total amount of incentives would remain the same regardless of when you were able to use them.

FINDINGS

Year 1

Importance: First Year of Ownership

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 17,317.80	\$ 12,060.60	\$ 20,624.40
Utility Payments	\$ 3,251.76	\$ 3,251.76	\$ 24.00
Outside Fees	\$ 300.00	\$ 1,500.00	\$ -
Grounds Maintenance Cost	\$ 1,500.00	\$ -	\$ 1,500.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 22,369.56	\$ 16,812.36	\$ 1,523.40

As you can see, the upper-middle class subdivision (Waterford Estates) had the highest net cost for the first year of ownership. The lowest cost for the first year of ownership was the energy efficient, “net zero” home (Rivera Greens). This is chiefly due to the large amount of tax incentives that are given for energy efficient products.

Years 1-4

Importance: Condominiums Become Cheapest Option

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 69,271.20	\$ 48,242.40	\$ 82,497.60
Utility Payments	\$ 13,007.04	\$ 13,007.04	\$ 96.00
Outside Fees	\$ 1,200.00	\$ 4,896.00	\$ -
Grounds Maintenance Cost	\$ 4,896.00	\$ -	\$ 4,896.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 88,374.24	\$ 66,145.44	\$ 66,864.60

In Year 4, condominiums become the least expensive housing option. Costs for year 1 through 4 have been conglomerated together to account for the discount that the energy efficient homeowners received during their first year of ownership. Condominiums become the least expensive option largely due to the low cost of the home. Condominiums are over \$175,000 cheaper than energy efficient homes of similar size, and almost \$100,000 cheaper than a home in an upper-middle class subdivision. As a result, monthly payments on the house are over \$700 cheaper than the payment on an energy efficient house and over \$400 cheaper than in the upper-middle class subdivision. This difference in monthly payments clearly makes up for the \$125 per month that condominium owners have to pay in Association Fees.

Years 1-30

Importance: Final Payment on a 30 Year Mortgage

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home (i.e. Rivera Greens)
House Payments	\$ 519,534.00	\$ 361,818.00	\$ 618,732.00
Utility Payments	\$ 97,552.80	\$ 97,552.80	\$ 720.00
Outside Fees	\$ 9,000.00	\$ 45,000.00	\$ -
Grounds Maintenance Cost	\$ 45,000.00	\$ -	\$ 45,000.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 671,086.80	\$ 504,370.80	\$ 643,827.00

At the end of year 30, it is evident that the least expensive housing option is still condominiums. Upper-middle class subdivisions have always been the most expensive. Energy efficient homes are between the two.

CONCLUSIONS

Condominiums are clearly the most cost effective choice out of the three housing options. Despite the \$125 per month Association Fees, they manage to remain the most affordable. This can be attributed to the low purchasing cost.

Energy efficient houses were the second most affordable option. Despite having the largest purchasing price, these green homes become very affordable when you take into account the tax incentives homeowners receive from the Federal and State Governments, and a drastically lower utility bill.

Homes in wealthy subdivisions are the most expensive housing option. In addition to having to pay Homeowner's Association Assessment Fees annually, these homeowners also have higher housing values because their homes are in an upper class neighborhood with surrounding homes much larger, and more expensive than the typical 2500 ft² home. They also do not get the tax benefits or low utility bills that energy efficient homeowners receive.

Despite the findings that energy efficient homes are not the least expensive option in the long run, these homes are still a good investment. These homes are better for your health because the windows, doors, walls, and air conditioning ducts are tightly sealed which keep out unfiltered outdoor air and allergens. The homes also clearly have a substantially lower operating cost. These homeowners also receive the benefit of a more consistent indoor temperature as a result of everything being rightly sealed and draft free. Energy efficient homes also have a much higher resale value and marketability compared to other homes. Green homes also get the benefit of knowing they are helping to keep their environment cleaner by reducing air pollution and the emission of harmful greenhouse gases.

Although we examined a subdivision in a wealthy neighborhood, our findings are also true for regular middle-class subdivisions. We found that energy efficient homes are still more cost effective compared to houses in regular subdivisions, so long as the house in the subdivision cost less than \$296,423. If the house costs less than \$296,423, it would be more cost effective to buy a regular subdivision home compared to an energy efficient home, *ceteris paribus*. However, it would still be the most cost effective option to purchase a condominium.

Just because it is the lowest overall cost to purchase a condominium, does not mean it is the best value. When looking at the net cost of ownership compared to the time of sale assessed value, the lowest difference (and thus the least amount of money paid over the assessed value) is the energy efficient home. Energy efficient homeowners in Rivera Greens paid \$243,827 over the assessed value including all lawn maintenance expenses, mortgage payments, and utility bills. Condominium owners paid over 215% of their assessed value over the course of 30 years. This can be attributed to the \$125 assessment fees that they will never see a return in. When a homeowner in Rivera Greens resells their home, they will see a larger return on their investment because they invested a smaller amount over the assessed value. You can see this in Appendix Table “Years 1-30”.

Although a homeowner will have to pay less over the course of the 30 year mortgage, they will see a lower return on your investment. It then may be a better long term investment to purchase an energy efficient home.

APPENDIX

Breakdown of Costs for First Year of Ownership

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. River a Greens)
Average Cost of 2500 ft² Home for a Family of 4 per month at 4% interest, 10% Down, 30 yr Fixed	Avg. Home Cost: \$335,870 Down Payment: \$33,587 Principle: \$302,283 Monthly Payment: \$1,443.15 Yearly Payment: \$17,317	Avg. Home Cost: \$233,909 Down Payment: \$23,391 Principle: \$210,518 Monthly Payment: \$1,005.05 Yearly Payment: \$12,060.60	Avg. Home Cost: \$400,000 Down Payment: \$40,000 Principle: \$360,000 Monthly Payment: \$1,718.70 Yearly Payment: \$20,624.40
Average Utility Bill per month	Average Electric Bill: \$108.41 Average Gas Bill: \$162.57 Total Utility Bills per month: \$270.98 Total Utility Bills per year: \$3,251.76	Average Electric Bill: \$108.41 Average Gas Bill: \$162.57 Total Utility Bills per month: \$270.98 Total Utility Bills: \$3,251.76	Average Electric Bill: \$1 Average Gas Bill: \$1 Total Utility Bills per month: \$2 Total Utility Bills per year: \$24
Outside Fees per month	Homeowner's Association Assessment Fees per month: \$25 Per Year: \$300	Association Fees per month: \$125 Per Year: \$1,500	0
Grounds Maintenance Cost per month	Per Month: \$125 Per Year: \$1,500	0	Per Month: \$125 Per Year: \$1,500
Tax Deductions	0	0	Federal: \$10,500 NYS: \$10,125 Total: \$20,625
Net Cost Per Year	\$22,369.56	\$16,812.36	\$1,523.40

Year 1

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 17,317.80	\$ 12,060.60	\$ 20,624.40
Utility Payments	\$ 3,251.76	\$ 3,251.76	\$ 24.00
Outside Fees	\$ 300.00	\$ 1,500.00	\$ -
Grounds Maintenance Cost	\$ 1,500.00	\$ -	\$ 1,500.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 22,369.56	\$ 16,812.36	\$ 1,523.40

Years 1-2

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 34,635.60	\$ 24,121.20	\$ 41,248.80
Utility Payments	\$ 6,503.52	\$ 6,503.52	\$ 48.00
Outside Fees	\$ 600.00	\$ 3,000.00	\$ -
Grounds Maintenance Cost	\$ 3,000.00	\$ -	\$ 3,000.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 44,739.12	\$ 33,624.72	\$ 23,671.80

Years 1-3

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 51,953.40	\$ 36,181.80	\$ 61,873.20
Utility Payments	\$ 9,755.28	\$ 9,755.28	\$ 72.00
Outside Fees	\$ 900.00	\$ 4,500.00	\$ -
Grounds Maintenance Cost	\$ 4,500.00	\$ -	\$ 4,500.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 67,108.68	\$ 50,437.08	\$ 45,820.20

Years 1-4

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 69,271.20	\$ 48,242.40	\$ 82,497.60
Utility Payments	\$ 13,007.04	\$ 13,007.04	\$ 96.00
Outside Fees	\$ 1,200.00	\$ 4,896.00	\$ -
Grounds Maintenance Cost	\$ 4,896.00	\$ -	\$ 4,896.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 88,374.24	\$ 66,145.44	\$ 66,864.60

Years 1-5

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 86,589.00	\$ 60,303.00	\$ 103,122.00
Utility Payments	\$ 16,258.80	\$ 16,258.80	\$ 120.00
Outside Fees	\$ 1,500.00	\$ 7,500.00	\$ -
Grounds Maintenance Cost	\$ 7,500.00	\$ -	\$ 7,500.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 111,847.80	\$ 84,061.80	\$ 90,117.00

Years 1-10

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home w/ No Outside Fees (i.e. Rivera Greens)
House Payments	\$ 173,178.00	\$ 120,606.00	\$ 206,244.00
Utility Payments	\$ 32,517.60	\$ 32,517.60	\$ 240.00
Outside Fees	\$ 3,000.00	\$ 15,000.00	\$ -
Grounds Maintenance Cost	\$ 15,000.00	\$ -	\$ 15,000.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 223,695.60	\$ 168,123.60	\$ 200,859.00

Years 1-15

	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home (i.e. Riviera Greens)
House Payments	\$ 259,767.00	\$ 180,909.00	\$ 309,366.00
Utility Payments	\$ 48,776.40	\$ 48,776.40	\$ 360.00
Outside Fees	\$ 4,500.00	\$ 22,500.00	\$ -
Grounds Maintenance Cost	\$ 22,500.00	\$ -	\$ 22,500.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 335,543.40	\$ 252,185.40	\$ 311,601.00

Years 1-20

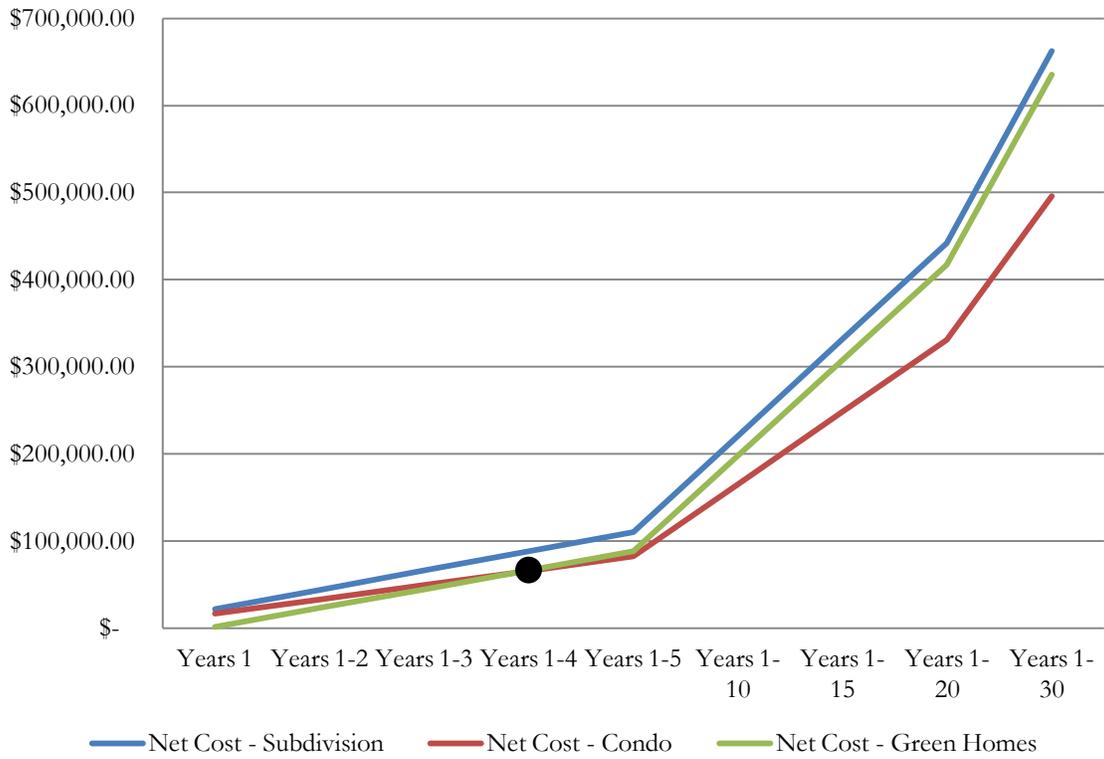
	Option1 : Subdivision w/ H.O.A. assessment fees (i.e. Waterford)	Option 2: Condominium w/ Association Fees (i.e. Amber Meadows)	Option 3: Energy Efficient Home (i.e. Riviera Greens)
House Payments	\$ 346,356.00	\$ 241,212.00	\$ 412,488.00
Utility Payments	\$ 65,035.20	\$ 65,035.20	\$ 480.00
Outside Fees	\$ 6,000.00	\$ 30,000.00	\$ -
Grounds Maintenance Cost	\$ 30,000.00	\$ -	\$ 30,000.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 447,391.20	\$ 336,247.20	\$ 422,343.00

Years 1-30

Option1 : Subdivision Option 2: Option 3: Energy

	w/ H.O.A. assessment fees (i.e. Waterford)	Condominium w/ Association Fees (i.e. Amber Meadows)	Efficient Home (i.e. Rivera Greens)
House Payments	\$ 519,534.00	\$ 361,818.00	\$ 618,732.00
Utility Payments	\$ 97,552.80	\$ 97,552.80	\$ 720.00
Outside Fees	\$ 9,000.00	\$ 45,000.00	\$ -
Grounds Maintenance Cost	\$ 45,000.00	\$ -	\$ 45,000.00
Tax Deductions	\$ -	\$ -	\$ 20,625.00
Net Cost	\$ 671,086.80	\$ 504,370.80	\$ 643,827.00
Difference Between Net Cost of Ownership and Time of Sale Assessed Value	\$ 335,216.80	\$ 270,461.80	\$ 243,827.00
Money Put Into Home/Time of Purchase Assessed Value	199.81%	215.63%	160.96%

Net Cost of Different Housing Options Over 30 Years



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