



**THE BELMEADE FARMS, LLC  
CEMETERY AND  
MEMORIAL GARDENS**

**ECONOMIC IMPACT  
ANALYSIS**

**SEPTEMBER 26, 2008**

## ECONOMIC IMPACT ANALYSIS OF THE BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS



### THE HISTORY OF RURAL CEMETERY DESIGN

“Until the late 18th century, burial customs in America were conducted in a practical manner. The early settlers buried their dead in the traditions of their homelands with little ceremony or thought to commemorate the deceased. By the early 19th century, colonial burying grounds and churchyards

located in rapidly expanding towns and cities were becoming overcrowded and neglected. As the century progressed, there was a growing public attitude that a cemetery should fill a larger purpose than merely serve as a place for interment. The development of what we know today as the American "rural" cemetery addressed these issues.

In 1831, Mount Auburn Cemetery in Cambridge, Massachusetts became the first cemetery in America to be developed in the "rural" style. Mount Auburn was located away from the town's center and designed in a park-like manner. The Cemetery's innovative landscape was complete with the winding paths and shady glens thought appropriate for contemplating the solemnity of death. Mount Auburn set the tone for a rapidly expanding movement in cemetery development.



By 1863, Hartford needed a place of burial satisfactory to its practical as well as aesthetic Victorian-era requirements. In response, a group of prominent Hartford citizens met to discuss establishing a new cemetery. Landscape pioneer, Jacob Weidenmann, who had designed Hartford's Bushnell Park several years earlier agreed to serve as the [Cedar Hill] cemetery's first superintendent and to design the landscape.

Cedar Hill's historic landscape played a significant role in American cemetery development and its innovative layout became the guiding principle for Weidenmann's book *Modern Cemeteries* written in 1888. While the landscape incorporates the best features of earlier prototypes such as drives following the natural sweep of the terrain in a

graceful, curving manner, it also includes several features unique in rural cemetery design. The burial plots are smaller than those of its contemporaries and not always contiguous. This arrangement allows for plantings in the spaces between the lots and creates vistas unbroken by hedges or curbing.”<sup>1</sup>

### **BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS**

The picturesque cemetery and memorial gardens of Belmeade Farms will be designed in keeping with the natural preservation philosophies embodied in historic rural cemeteries. Belmeade Farms, LLC is proposing the cemetery for a 194-acre site in northern Chatham County, North Carolina.

The cemetery grounds include acres of woodlands, wetlands, streams and dedicated open space that attract many species of birds and wildlife. In addition, Belmeade Farm’s landscape contains notable trees which represent the state’s beauty; specifically, flowering dogwood, weeping cherry, tulip, magnolia, white and red oaks, pines, elms and maples.

### **ECONOMIC IMPACTS OF BELMEADE FARMS, LLC**

This report first evaluates the economic impacts of the project on Chatham County, which is the smallest study area for which economic data are available. The analysis is conducted to provide Chatham County with an estimate of the level of economic activity and jobs that will be generated in Chatham County both during the development phase and as the result of ongoing operations after the project is completed. The report next presents estimates of property and sales taxes generated by the operations of the Belmeade Farms, LLC cemetery and memorial gardens after completion. The results are reported for annual time periods.

The economic impacts of Belmeade Farms will primarily be felt in Chatham County, but its impacts will also extend to areas surrounding Chatham County. This analysis focuses solely on the Chatham County economic impacts thereby underestimating the economic impacts on the region.

The development of Belmeade Farms will have impacts on the Chatham County economy and the surrounding counties in two phases. The initial impacts will occur during the development of the property. Once development is completed, the operating expenses of Belmeade Farms, LLC combined with local expenditures related to burial services will have impacts on the local economy on an ongoing basis. It is important to note that this analysis focuses only on Chatham County. The economic impacts on the region will be larger than those occurring within the boundaries of Chatham County. Usually the smaller the study area, the more the leakages (purchases and sales) will occur outside the area. Fewer ripple effects will occur inside the area. Thus multipliers and the related impacts generally become larger as the geographic area increases in size.

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<sup>1</sup> <http://www.cedarhillcemetery.org>

This analysis utilizes impact models generated by the IMPLAN modeling system.<sup>2</sup> IMPLAN is a nationally recognized system of local economic models that are specifically designed to represent a local economy such as Chatham County. The IMPLAN models are modifications of the national input-output models developed by the Bureau of Economic Analysis, US Department of Commerce. The IMPLAN models incorporate the most recent data available.<sup>3</sup>

The methodology and assumptions underlying these estimates and those in the following section are described later in this report. The estimates are presented in constant dollars (2008) and assume no inflation during the project’s development. This assumption applies to all estimates in the analysis. The assumption of constant dollars assumes revenues and costs will increase at similar rates during the buildout period and afterwards.

**IMPACTS FROM THE DEVELOPMENT PHASE**

The economic impacts from the infrastructure and landscaping development of the cemetery and memorial gardens are outlined in this section. These impacts will occur over the project’s expected four year construction period.

Based on estimates by the developer, infrastructure development costs are expected to be \$10.8 million. Landscaping costs for individual sites are estimated at \$2.16 million.

<b>TABLE 1 BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS PROJECT DEVELOPMENT COSTS</b>	
Project Infrastructure Costs	\$10.8 Million
Individual Site Landscaping Costs	\$2.16 Million
* Costs will vary based on market conditions.	

As the development dollars are spent and re-spent in Chatham County, additional income is created for those companies and individuals supplying goods and services in support of the site’s development. The recipients will spend this income on other goods and services. Each time, some of the purchases will be for goods and services inside Chatham County and some will be for goods and services from outside the area (referred to as “leakages”). The well known “multiplier effect” estimates the aggregate amount of local buying and selling that occurs.

The multipliers used in this analysis estimate three components of total change within the local area:

<sup>2</sup> IMPLAN is the regional modeling system developed by MIG, Inc., Stillwater, MN.

<sup>3</sup> The latest data available for the IMPLAN modeling system are for 2006. However, the final dollar impacts estimated in this analysis reflect 2008 prices.

- *Direct effects* represent the initial change in the industry in question.
- *Indirect effects* account for changes in inter-industry transactions as supplying industries respond to increased demands from the directly affected industry.
- *Induced effects* reflect changes in local spending of income those results from changes in the directly and indirectly affected industry sectors.

The cycle of spending continues until leakages from the region (spending on goods and services outside the area) end the cycle. Due to these multiplier effects, the initial, direct investment results in indirect and induced impacts of additional dollars.

As seen in Table 2, the cumulative effects of the multiplier cause the direct development costs totaling \$4.1 million in Year 1 to result in an indirect impact of \$713,000 and an induced impact of \$689,000 within Chatham County. The total increase in output for Chatham County from the development of the Belmeade Farms cemetery and memorial gardens is \$17.4 million. Annual levels of output, labor income and employment will vary with the pace of site development over the four-year period.

<b>TABLE 2 BELMEADE FARMS ECONOMIC IMPACT ANNUAL SITE DEVELOPMENT COSTS</b>				
<b>YEAR 1 ANNUAL SITE DEVELOPMENT IMPACTS</b>				
	Direct	Indirect	Induced	Total
Output	\$ 4,098,000	\$ 713,000	\$ 689,000	\$ 5,500,000
Employment	55	7	7	69
Labor Income	\$ 1,980,000	\$ 249,000	\$ 179,000	\$ 2,408,000
<b>YEARS 2 – 4 ANNUAL SITE DEVELOPMENT IMPACTS</b>				
	Direct	Indirect	Induced	Total
Output	\$ 2,234,000	\$ 388,000	\$ 375,000	\$ 2,997,000
Employment	30	4	4	38
Labor Income	\$ 1,080,000	\$ 136,000	\$ 98,000	\$ 1,314,000
<b>INDIVIDUAL SITE LANDSCAPING IMPACTS</b>				
	Direct	Indirect	Induced	Total
Output	\$ 2,160,000	\$ 376,000	\$ 363,000	\$ 2,899,000
Employment	29	4	4	37
Labor Income	\$ 899,000	\$ 131,000	\$ 94,000	\$ 1,124,000

Jobs will also be created during the development period. It is estimated that in Year 1, there will be 55 jobs directly created in Chatham County from the site development. In addition to these direct jobs, another 14 jobs will be created as indirect and induced impacts – for a total of 69 jobs in Chatham County during Year 1. A total of 38 new jobs are created annually in Years 2 – 4, and 37 new jobs are created from the landscaping of the individual sites. No permanent job creation from development activities is assumed.

During the development phase, Chatham County will experience an increase in labor income. As seen in Table 2, the cumulative effects of the multiplier cause the Year 1 direct investment of \$4.1 million to result in a direct impact on labor income in Chatham County of \$2.0 million. These dollars circulate throughout the County and result in an indirect impact of an additional \$249,000 in labor income and an induced labor income impact of \$179,000. The annual increase of labor income in Years 2 – 4 in Chatham County is \$1.3 million, and the total increase in labor income as a result of landscaping the individual sites is \$1.1 million.

### **ONGOING IMPACTS FROM BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS**

In addition to the impacts from the development activity, Chatham County will also experience permanent economic activity generated by the operations of Belmeade Farms, LLC cemetery and memorial gardens.

### **BASIC ASSUMPTIONS**

Extensive market research has been performed by Belmeade Farms, LLC during the development of the business plan for the project. As a result of the data gathered during their research, the developer has made the following assumptions regarding the direct impacts on Chatham County during the fifth year of operations. Year 5 represents normalized expenditures for the purpose of calculating the direct impacts on Chatham County.

The direct impacts assume 250 burials will occur in Belmeade Farms cemetery and memorials annually. According to the N.C. State Center for Health Statistics, during 2006 Wake, Orange, Chatham and Durham Counties reported 6,613 deaths. The estimated annual burials of 250 represent 3.8% of the annual deaths in the four-county region during 2006. As the population in the region grows and ages, this estimate should become even more conservative.

Burial costs incurred by Belmeade Farms, LLC are expected to total \$850,000 [250 x \$3,400] annually. The average cost per burial of \$3,400 includes site preparation costs of \$1,100, marker costs of \$1,500 and vault costs of \$800. Annual payroll costs for the 21 employees of Belmeade Farms, LLC will total \$717,000 as detailed in Table 3.

Belmeade Farms, LLC expects to incur annual advertising and marketing expense of \$105,000.

Family, friends, and guests attending the burial services will purchase goods and services in the immediate area. For purposes of this study, it is assumed that businesses in Chatham County will successfully capture these expenditures due to the convenience of businesses in proximity of the cemetery and memorial gardens.

The developer’s research revealed that roughly 30 persons will attend each burial service with approximately 30%, or 9 persons per burial, requiring two overnight stays and 6 local meals. Annual lodging revenue is estimated at \$345,000. The estimate assumes 1.5 persons per room and an average rate of \$115 per night (*2007 Lodging Industry Profile*, American Hotel and Lodging Association).  $\{[(250 \times 30 \times 30\%) / 1.5] \times \$115 \times 2\} = \$345,000\}$ . Although northern Chatham County has limited lodging capacity at present, several commercial projects approved in recent years include hotel sites.

Annual sales revenue for local meals is assumed to be \$202,500.  $[(250 \times 30 \times 30\%) \times \$15 \times 6]$

Local florists will benefit from the demand generated by initial internments and the ongoing need for annual floral arrangements. Annual revenue for initial internment floral arrangements, as projected by the developer, is expected to be \$400,000.  $[\$1,600 \times 250 = \$400,000]$ . Annual floral expenditures for existing markers are estimated by the developer to be \$125,000 in Year 5.  $[\$100 \times 1,250 = \$125,000]$

<b>TABLE 3</b>	
<b>BELMEADE FARMS, LLC ANNUAL DIRECT IMPACTS ON CHATHAM COUNTY, NC</b>	
Annual Business Expenditures:	
Site Preparation	\$ 275,000
Markers	375,000
Vaults	200,000
Administrative Staff Payroll: 8 full-time	400,000
Maintenance Staff Payroll: 8 full-time	192,000
Sales Staff Payroll – 5	125,000
Advertising and Marketing	<u>105,000</u>
	\$ 1,672,000
Annual Consumer (Family, Friends and Guests) Expenditures:	
Internment Floral Expenditures	\$ 400,000
Ongoing Floral Expenditures	125,000
Lodging	345,000
Meals and Incidentals	<u>202,500</u>
	\$ 1,072,500
Total Annual Expenditures - Direct Impacts	<u>\$ 2,744,500</u>

However, certain purchases and payments require adjustment to properly estimate the economic impacts on Chatham County using the IMPLAN methodology.

The first adjustment is the conversion of purchaser/retail values into the appropriate producer values. Input-output models such as IMPLAN are concerned with the effects on industries and corresponding values are in producer prices. The application of margin assumptions, whereby margin represents the difference between the producer and purchaser/retail prices, effectively assigns direct expenditures to the correct input-output sector. In essence, margining allocates the purchase price into the appropriate producer price, the transportation costs and the wholesale and retail margins added, with each value impacting specific industries.

The second adjustment involves the application of Regional Purchasing Coefficients (RPC). An RPC represents the portion of the total local demand that is met by local production and attempts to account for the regional importation and exportation of commodities from each sector. Using RPC assumptions to modify the local expenditure proportion is particularly important for margined items, where a purchase may be made through a local retailer, but the item itself is manufactured outside the area and is imported. For this analysis, all retail goods are assumed to be imported into Chatham County which is an assumption that leads to more conservative estimates of economic impact. Furthermore, the annual wages of the 21 employees of Belmeade Farms, LLC are converted to disposable personal income (DPI) to measure the after-tax, after-savings effects of the new payroll. Due to the margining, importation, and disposable personal income assumptions, the business, consumer and new DPI spending (output) of \$2.7 million generates actual direct output for Chatham County of \$1.9 million.

### ECONOMIC IMPACTS

As seen in Table 4, Belmeade Farms, LLC’s annual revenue of \$2.7 million generates \$1.9 million of direct output activity. The cumulative effects of the multiplier cause the initial direct activity of \$1.9 million generated annually from this project to result in an indirect impact of \$223,000 and an induced impact of \$203,000 of additional output within Chatham County. This results in a total increase in output in dollars for Chatham County of \$2.3 million from the ongoing activities of Belmeade Farms, LLC.

TABLE 4 BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS ANNUAL ECONOMIC IMPACTS – YEAR 5, NORMALIZED					
	Direct	Indirect	Induced	Total	
Output - Total	\$ 2,745,000				
Output DPI/Margin Adjusted	\$ 1,901,000	\$ 223,000	\$ 203,000	\$ 2,327,000	
Employment	24	2	2	28	
Labor Income	\$ 531,000	\$ 68,000	\$ 53,000	\$ 652,000	

In addition to the 21 employees of Belmeade Farms, LLC, another 28 permanent employees will be generated in Chatham County and will earn approximately \$652,000 in annual personal income.

## **TAXES GENERATED BY BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS**

The 2008 real property tax bill for the site was approximately \$15,200 as noted in Table 5. However according to *NCGS§ 105-278.2. Burial property. (a) Real property set apart for burial purposes shall be exempted from taxation unless it is owned and held for purposes of (i) sale or rental or (ii) sale of burial rights therein.* Therefore, it is assumed the 194 acres of real property will become tax-exempt by Year 5. On the other hand, the Belmeade Farms, LLC cemetery and memorial gardens will generate sales, occupancy and personal property taxes for Chatham County as detailed below.

Based on the current Chatham County ad valorem tax rate of 0.653% Belmeade Farms, LLC will produce personal property taxes of approximately \$1,300 per year assuming ongoing equipment valued at \$200,000.

Belmeade Farms, LLC will also generate Article 39 sales tax collections that will accrue to Chatham County and its municipalities. Article 39 sales taxes are assessed at 1% of non-exempt sales, estimated to be \$1.65 million, consisting of markers, vaults, lodging, meals and floral expenditures. (Effective January 1, 2006, markers and vaults are no longer exempt from sales tax in North Carolina.) Annual Article 39 sales tax collections are projected at \$16,600. Article 39 sales tax collections are distributed to Chatham County and its respective municipalities on a per capita basis. Presently, 84% is distributed directly to Chatham County; 16% is distributed to the municipalities. As part of the N.C. Medicaid Relief legislation, the distribution method for the one-half cent Article 42 sales tax will convert from a per capita to a delivery of goods basis in FY10. Sales taxes generated from the project, including the 60% restricted for public school capital outlay, are shown in Table 5. Occupancy tax collections are expected to be \$10,400.

During the development phase, Belmeade Farms, LLC expects to purchase, at minimum, materials costing \$4.9 million upon which Article 39 and 42 sales taxes totaling \$73,000 will be collected. Of this total, approximately \$61,400 will be distributed to Chatham County and the remainder to the municipalities.

**TABLE 5**  
**BELMEADE FARMS, LLC CEMETERY AND MEMORIAL GARDENS**  
**ONGOING ANNUAL SALES, OCCUPANCY AND PROPERTY TAXES**

POTENTIAL	TOTAL	COUNTY	TOWNS
Business Expenditures:			
Article 39	\$ 5,800	\$ 4,900	\$ 900
Article 42 - 60% for school capital outlay	\$ 2,900	\$ 2,400	\$ 500
Consumer (Family and Guests) Expenditures:			
Article 39	\$ 10,800	\$ 9,100	\$ 1,700
Article 42 - 60% for school capital outlay	<u>\$ 5,300</u>	<u>\$ 4,400</u>	<u>\$ 900</u>
Total Annual Sales Tax	<u>\$ 24,800</u>	\$ 20,800	<u>\$ 4,000</u>
Total Annual Occupancy Tax		\$ 10,400	
Total Annual Personal Property Tax		<u>\$ 1,300</u>	
Total Annual Sales, Occupancy and Property Taxes		<u>\$ 32,500</u>	
<b>AT PRESENT</b>			
2008 Real Property Tax Applicable to 194-Acre Site		<u>\$ 15,200</u>	

### **METHODOLOGY**

This study estimates the economic impacts of the proposed Belmeade Farms, LLC cemetery and memorial gardens on the Chatham County economy. The methodology used in this study is the IMPLAN regional input-output modeling system developed by MIG, Inc. of Stillwater, Minnesota.

IMPLAN was developed by MIG, Inc. as a cost-effective means to develop regional input-output models. The IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the US Economy" by the Bureau of Economic Analysis (1980) and the rectangular format recommended by the United Nations.

The IMPLAN Input-Output Model mathematically describes commodity flows from producers to intermediate and final consumers. Purchases for final use (final demand) drive the model. Industries producing goods and services for final demand also purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues. Leakages from the region eventually stop the cycle.

The IMPLAN input-output model mathematically derives the indirect and induced effects. The resulting multipliers describe the change in output for every regional

industry caused by a one-dollar change in final demand for any given industry. The notion of a multiplier rests upon the difference between the initial effect of a change in final demand and the total effects of that change. Total effects are the direct effects plus indirect effects, plus induced effects. Direct effects are the production changes associated with initial final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly effected industries. Induced effects result from the household expenditures from the directly or indirectly generated labor income.

In essence, the multipliers estimated by this methodology represent the consecutive rounds of buying and selling that ripple through an economy. To produce one dollar of new product, employees must be hired and paid. The wages paid to these workers will then be spent on goods and services, such as food, gasoline, clothes, housing, etc. within the region and outside the region. As these cents are spent, they become income to the recipient, and the spending continues over and over again. The induced effect is the cumulative amount of spending.

The economic activity of the project also requires intermediate inputs to be purchased such as electricity, raw materials, transportation services, labor etc. These expenditures become income to the recipient and pay for the purchases of raw materials, labor, etc. They, in turn, are then spent over and over again in the economy. Purchases made from outside the region are considered “leakages” from the economy. The consecutive rounds of selling goods and services continue until these leakages from the region end the cycle. The indirect effect is the cumulative amount of such spending.

The IMPLAN databases consist of two major parts: national-level matrices and tables and economic and physical data at the county and/or state level. The national matrices are used with regional data to create a regional model.

The following national-level matrices are included with each IMPLAN database.

1. The *National Absorption Table* is a coefficient form of the National Use Table derived by dividing each element of the Use Table by the respective industry’s total dollar output. The resulting Absorption Table shows how an industry spends each dollar of outlay on goods and services to produce a dollar of output. Each column is an industry’s production function reflecting the proportions of commodities used to produce one dollar of output.
2. The *National Byproducts Table* is a coefficient form of the National Make Table derived by dividing each element by the Make Table row (industry) totals. Each industry can produce more than one commodity. The Byproducts Tables shows what percentage of an industry’s total output each commodity represents.
3. Deflators are used to adjust values from one time period to another.
4. Margins split a purchaser price into the appropriate producer values.

The local economic data in an IMPLAN database include Industry Output, Employment, Value Added and Final Demands. The value-added components are employee

compensation, proprietors' income, other property type income, and indirect business taxes. The final demands components in the initial Final Demands Table are personal consumption expenditures, state and local education and non-education purchases, federal military and non-military purchases, inventory purchases and capital formation. Regional data is applied to the national matrices to create a set of regional accounts.

### **GENERAL ENGAGEMENT ASSUMPTIONS**

This economic impact analysis is not a budget or forecasting document and is not intended to depict a definitive course of action. Moreover, economic impact analysis is not designed as a space or facility-planning document. Many assumptions underlying impact analysis are affected by policy decisions which, if modified, would affect the overall results.

This study is based on estimates, assumptions and other information developed by Miley, Gallo & Associates, LLC from its independent research effort, consultations with the client and its representatives, and primary and secondary sources. We have utilized sources that are deemed to be reliable but cannot guarantee their accuracy. Moreover, estimates and analysis are based on trends and assumptions and, therefore, there will usually be differences between projected and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent and representatives, or any other data source used in preparing this study.

This report is based on information that was current as of September 26, 2008, and Miley, Gallo & Associates, LLC has not undertaken any update of its research effort since that date. We have no obligation, unless subsequently engaged, to update this report or revise this analysis as presented due to events or conditions occurring after the date of this report.

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