



Community Association Engineering

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RESERVE STUDY

Monterey Estates Community Association

Herndon, Virginia



October 2015

INTRODUCTION

At the request of the Monterey Estates Community Association, Community Association Engineering (CAE) has prepared this Reserve Study for the Association-owned and -maintained common elements found in the community.

The scope and content of the report are summarized below:

1. Sources of Information
2. Methods of Analysis
3. Results of Research and Inspection
4. General Comments
5. Reserve Funding Calculations and Recommendations
6. Qualifying Statements

Please direct any question you may have regarding this study to Community Association Engineering (CAE) at the phone number and address listed on the cover sheet of this document. Our office hours are 9:00 a.m. to 5:00 p.m. weekdays, with telephone consultation hours on weekends and evenings by appointment.

1. Sources of Information

This report was prepared based on information from the following sources:

- Public record information available through Fairfax County.
- Information supplied by the Association and/or their Board / Management.
- Site inspections performed by Community Association Engineering (CAE).
- Professional opinion supplied by contractors of relevant trades.
- Professional opinion supplied by manufacturers of products used in common area.
- Average contractor's costs for the Washington metro area and engineering judgment.

These sources were felt to be sufficient for purposes of preparing this report. The information obtained should be considered approximate in nature.

2. Methods of Analysis

Pursuant to direction from Management and the Association, the following common elements were the subject of our inspections and report:

- Basketball Court
- Tennis Court
- Tot Lot
- Asphalt Trail
- Miscellaneous Site Items

Only the items listed in the attached Reserve Schedule were analyzed. Our firm conducted site visits to approximately measure/verify material quantities and to ascertain a general state of condition of the site common elements.

The approximate total useful and remaining useful life figures were assigned to each of the quantities measured from discussions with subcontractors experienced in the various specialty fields involved and from industry accepted standards. Each quantity was also assigned a unit cost for applicable replacement.

The client should understand that measurements performed for this report are approximate in nature. Common area measurements were either measured in the field or measured off available site plans.

3. Results of Research and Inspection

Description and Age of Facilities

The Monterey Estates community is a residential development comprised of single-family detached dwellings located in Herndon, Virginia. Development of the community common elements that are the subject of this report was substantially completed in the early 1980's and we have estimated the age of these common elements at 33 years old based on information obtained from Fairfax County public records.

Our research and discussions with Association representatives reveals that the following land parcels are owned and maintained by the community:

• 0251-5-A	• 0251-5-G	• 0252-11-F
• 0251-5-B	• 0252-11-C	• 0252-11-H

Maintenance to Date

Information provided by the Association indicates that various repair, replacement or restoration projects on the community owned and maintained common elements have been performed in the past, are currently ongoing, or are planned for the near term future. This information was considered and utilized in the preparation of this report. It appears, based on our inspections, that routine maintenance is generally being performed on these common elements.

4. General Comments

Following are brief comments on selected line items in the reserve schedule presented herein for clarification or general information purposes. All of the items discussed below are located on Association owned land parcel 0252-11-C.

Basketball Court

The basketball court is asphalt surfaced, with an acrylic color coating and contains two metal, commercial quality goals. It is reported that this court received an asphalt overlay installation in the early 2000's and had crack repairs, a resurfacing application and new color coating installed in 2012.

The court is currently found in adequate and sound condition though we note a large number of stains on the color coat surface. These stains appear to be oil based and we are concerned that they may have a negative impact on the life expectancy of the color coat if not removed. We have scheduled for major court restoration in 6 years, based primarily on the overlay installation's age of 14-15 years. It is unclear whether the resurfacing application in 2012 will provide an extended life beyond 6 years. The repair that we are anticipating in 6 years is for removing the current built up surface and replacing it with a new surface and installing a new color coating. The goals will also be replaced.

We do note that the current built up court surface has elevated the court slightly above the adjacent ground. This condition appears to be promoting edge failures in some locations on the court. It also may present an undesirable condition for patrons of the court who are not anticipating the drop off from the surface.

Tennis Court

The tennis court is asphalt surfaced, with an acrylic color coating and contains two metal, commercial quality net posts and a plastic practice wall. The court is currently found in marginal condition with a deteriorating color coat, numerous large cracks that run through the asphalt surface, and net post foundations that are beginning to fail. No repair history for the tennis court was available for our report and we have scheduled for major court restoration in 3 years based on current conditions. The work that we are anticipating on the tennis court in 3 years is for a replacement of the current asphalt surface with a new surface and installing a new color coating. The net posts and foundations will be replaced as well as the perimeter fence.

Tot Lot

The community tot lot contains a mix of older and new equipment. The installation of the new tot lot equipment was in progress at the time of our inspections and we were unable to review the completed upgrades. The equipment we did observe appears to be in sound condition and of quality construction. The tot lot remaining life of 19 years that is shown in the Reserve Schedule is a weighted average that accounts for the differing age of the various components.

Please note that the Reserve Study observations of the tot lot do not constitute a warranty of condition or safety inspection. We recommend that the tot lot be regularly inspected, at least once a year and preferably in the spring, to ensure that all play equipment is in good working order and that the mulch beds are of adequate depth.

Asphalt Trail

An asphalt trail located on the recreation area land parcel runs from New Ambler Court to the adjacent community association's land parcel. We have confirmed with Fairfax County that this section of trail is not included in their trail system and is therefore assumed to be maintained by the Monterey Estates HOA. The quantity of asphalt trail shown in the Reserve Schedule also includes the short sections of trail that lead to the basketball and tennis courts.

The trails are currently found in marginal but serviceable condition with significant areas of cracking noted. We have schedule for trail replacement in 4 years based on current conditions. Performing crack repair work on the existing trails may extend their current life expectancy to a minor degree.

We have confirmed with Fairfax County that they do own and maintain trails that run along the Colonial Pipeline on land parcels 0251-5-A, 0251-5-B, and 0251-5-G and these trails are therefore not included in the Reserve Schedule.

Miscellaneous Site Items

Picnic Tables, Benches, Trash Cans, Bike Rack

This line item is to fund the replacement of these fixtures which are located in the recreation area land parcel. The fixtures are a mix of older and newer items and the remaining life shown in the reserve schedule is an estimated average. All fixtures appear to be in serviceable and sound condition.

Our cost estimate for these improvements is for commercial quality fixtures supplied and installed by a contractor. It includes removal of the old item and installation of the new. For benches and trash cans this includes the concrete foundation these fixtures are attached to. The benches and trashcan in the tot lot area are included in this line item.

Metal Storage Box

This item is located adjacent to the tennis court and appears in adequate condition.

Storm Water Management Pond Cleaning

Dry storm water management ponds are located on Association land parcels 0251-5-B and 0252-11-F. We have confirmed with Fairfax County that these ponds are included in their storm water system.

The typical County maintenance agreement for storm water management systems of this type is that the County maintains the inlet and outlet works and the embankment. The Association is responsible for cleaning and grounds upkeep. We are providing a funding allowance of \$1,500 per pond every 5 years for cleaning and grounds upkeep in the Reserve Schedule. This funding amount may be adjusted based on actual historical and anticipated future expenditures. This funding amount does not include routine grass mowing.

Public Maintenance

Roadways in the single family detached home sections of the community appear to be located within dedicated public right-of-ways per available information. All pavements, curb and gutter, sidewalk, and other improvements found within these right-of ways are assumed to be publicly maintained and therefore are not included in the Reserve Schedule.

5. Reserve Funding Calculations and Recommendations

A spreadsheet of anticipated replacement/repair quantities and costs are presented in Attachment A. Brief descriptions of each column on the spreadsheet are summarized below:

- Quantity: The estimated amount of the item, which is to be replaced.
- Cost/Unit: The unit cost of replacement for that item.
- Total Cost: The item Quantity multiplied by the Cost/Unit
- Total Estimated Useful Life: The total useful life expected of an item
- Estimated Remaining Useful Life: The expected remaining useful life of an item. Unless otherwise noted, items of repetitive or short duration, estimated remaining life is set at total life so as not to skew final results for the annual deposit computation.
- Estimated Original Objective: The amount, in current day dollars, that should have been set aside each year since the first year of an item's life. The amount reserved by the community to date does not affect this computation. It is computed by dividing the Total Cost by the Total Useful Life.
- Reserves on Hand: The spreadsheet divides the existing reserve account balance, as reported by the Association or management, by proportioning each amount according to its relative Total Cost. Please note that the amounts in this column may not necessarily match proportion schedules or account divisions that the community has set up for the various replacement items.
- Estimated Annual Deposit: The Total Cost minus the Reserves on Hand, divided by the Estimated Remaining Useful Life.
- Full Funded Balance: The current replacement value of an item that takes into account its estimated remaining life. The fractional age of an item multiplied by its estimated Current Replacement Cost.

ATTACHMENT A: COMPONENT METHOD RESERVE SCHEDULE

Attachment A is based in part on financial information obtained from the Association or their agents. The existing reserve account balance, as reported by the Association, of approximately \$57,500 has been proportionally allocated among all reserve line items based on a ratio of the line items replacement cost divided by the total replacement cost of all line items. This allocation of existing funds may not match existing fund breakdowns currently utilized by the Association.

Based on information supplied by the Association along with our computations and measurements, it is our professional opinion that annual reserve contribution will need to be approximately \$18,600 to adequately fund the reserve account at a 100% funding level.

Please note that we also recommend that the Board fund a 10% contingency beyond the above minimum, thus increasing the recommended annual deposit to reserves to approximately **\$20,400**. This 10% contingency is recommended to be funded due the variations found in pricing and performing future construction work in a community setting such as Monterey

Estates. Where it is not a requirement of CAI Reserve Study guidelines, our firm believes strongly in the logic of a contingency factor when performing long term financial planning. Such contingencies serve to assist in addressing unforeseen expenses that may accrue as a part of the process of maintaining common areas.

Funding Opinion

When the computed Full Funded Balance (FFB) of \$90,012 (see Attachment A, bottom of 10th Column) is compared to the reported reserve account balance of \$57,500 this yields a current funding level of approximately 64% of the FFB. On this basis, it is our opinion that the Association's reserve funds are minimally adequate at this time as defined by CAI National Standards.

Please note that, in order to avoid falling below such minimally adequate funding, it is a basis of our opinion that annual reserve fund deposits must be made within the range of deposit recommendations above and further that the performance of regular maintenance as recommended herein be completed as appropriate and in general conformance to the schedules herein to maintain our present opinion until the next reserve study update.

Please note that no factoring for interest accrual on existing reserve funds or for inflation on the future cost of services and repairs has been made in this study. All recommendations are based on 2015 dollars. Under the annual review of reserves that the Association is required to perform under Virginia Code 55-514.1, the Board should identify, along with its financial planner, CPA or property manager the appropriate inflation factor, if any

ATTACHMENT B: CASH FLOW METHOD RESERVE SCHEDULE

This schedule is based in part on financial information obtained from the Association or their agents. The existing reserve account balance, as reported by the Association, of approximately \$57,500 is used as the starting reserve account fund level. The reserve account is then funded at a level that maintains a minimum reserve account balance of 20% of the total asset value¹ over the 25 year time period examined. These computations yield the following annual reserve account contribution:

Cash Flow Method using threshold of 20% of TAV with 0% inflation and 10% contingency: Annual Reserve Contribution = \$12,804

¹ Total Asset Value (TAV) is the summation of all values in the "Estimated Current Replace Cost" column of Attachment A, Component Method Spreadsheet - at this time, approximately \$157,000 (see Att. A).

6. Qualifying Statements

This study was prepared exclusively from information obtained through public record, public officials, and the Association. Therefore, the information contained within should be considered approximate. All of these sources are assumed generally acceptable for the purposes of this study. Nothing in this study should be construed as representing construction information. Items

not specifically listed in Attachments A and B have not been considered.

Community Association Engineering has prepared this study for the sole and exclusive use of the Monterey Estates Community Association and will not accept responsibility for any action resulting from the use or distribution of this study to or by others for purposes other than those intended by our firm. No field survey or subsurface investigations were conducted as a part of this study, although site visits were made to confirm the approximate quantity and/or existence/non-existence of certain features. This study does not guarantee that potential problems do not exist that were not apparent given the type of information available or inspection conducted or that relate to subjects beyond or unrelated to the scope of this study, such as structural engineering or architectural design.

The assessments listed in this report were limited to visual, non-destructive observations of readily accessible, non-hazardous areas and did not include an inspection of any items for compliance with federal, state, or local codes or ordinances. Where violation of codes or ordinances is suspected, it has been noted in the report. The inspections do not constitute a warranty of those items inspected or estimated, but merely a visual observation of the subject property.

The costs outlined above should be considered approximate. Actual replacement costs may differ significantly from the projections in the analysis due to factors such as ensuing maintenance practices, inflation, market conditions and variations in prices based on bid date and specific client requirements, future technological developments, regulatory actions, and other unforeseeable factors. Costs listed in this report are based on present day dollars only and will require a financial analysis to determine alternative funding methods, which could be employed.

We appreciate the opportunity to be of service to the Monterey Estates community. Please contact us with any questions or comments regarding the contents of this report.

Respectfully submitted,

Brian F. Cleary, P.E. & Gregory J. Budnik, P.E.

RESERVE SCHEDULE
 (Component Method)

ITEM	QUANTITY	COST PER UNIT	ESTIMATED CURRENT REPLACE COST	TOTAL EST'D USEFUL LIFE	EST'D REMAIN USEFUL LIFE	EST'D ORIGINAL OBJECTIVE	RESERVES ON HAND	EST'D ANNUAL DEPOSIT	FULL FUNDED BALANCE
COMPONENT METHOD									
Basketball Court									
Basketball court restoration	4,250	\$4.25 /ea	\$18,063	20	6	\$903	\$6,609	\$1,909	\$12,644
Basketball court color coat	4,250	\$1.00 /ea	\$4,250	10	6	\$425	\$1,555	\$449	\$1,700
Basketball court goals	2	\$1,800.00 /ea	\$3,600	30	6	\$120	\$1,317	\$380	\$2,880
Subtotal			\$25,913			\$1,448	\$9,482	\$2,738	\$17,224
Tennis Court									
Tennis court restoration	7,200	\$4.25 /ea	\$30,600	20	3	\$1,530	\$11,197	\$6,468	\$26,010
Tennis court color coat	7,200	\$1.00 /ea	\$7,200	10	3	\$720	\$2,635	\$1,522	\$5,040
Tennis court net posts	2	\$1,200.00 /ea	\$2,400	20	3	\$120	\$878	\$507	\$2,040
Tennis court practice wall	1	\$2,800.00 /ea	\$2,800	12	6	\$233	\$1,025	\$296	\$1,400
10' chain link fence around tennis court	360	\$35.00 /lf	\$12,600	30	3	\$420	\$4,611	\$2,663	\$11,340
Subtotal			\$55,600			\$3,023	\$20,345	\$11,456	\$45,830
Tot Lot									
Tot lot renovation	1	\$55,000.00 /ls	\$55,000	25	19	\$2,200	\$20,126	\$1,835	\$13,200
Subtotal			\$55,000			\$2,200	\$20,126	\$1,835	\$13,200
Asphalt trail									
Asphalt trail	3,500	\$3.25 /sf	\$11,375	15	4	\$758	\$4,162	\$1,803	\$8,342
Subtotal			\$11,375			\$758	\$4,162	\$1,803	\$8,342
Miscellaneous Site Items									
Picnic tables, trash cans, benches, bike rack	1	\$8,750.00 /ls	\$8,750	20	8	\$438	\$3,202	\$694	\$5,250
Metal storage box	1	\$500.00 /ea	\$500	12	8	\$42	\$183	\$40	\$167
Storm water management pond cleaning/grounds	2	\$1,500.00 /ea	\$3,000	5	5	\$600	\$1,098	\$380	\$0
Subtotal			\$9,250			\$479	\$3,385	\$733	\$5,417
TOTAL			\$157,138			\$7,909	\$57,500	\$18,566	\$90,012
Contingency (10%)								\$1,857	
GRAND TOTAL								\$20,423	
Reserve Fund Balance							\$57,500		

NOTES:

1. Please refer to the accompanying reserve study report for details on items in this reserve schedule.

LEGEND

ls = lump sum
 lf = linear foot
 ea = each
 sf = square feet

RESERVE SCHEDULE
 (Cash Flow Method)

	Year Life Starts:	2016	2017	2018	2019	2020	2021	2022	2023
CASH FLOW METHOD									
<i>Basketball Court</i>									
Basketball court restoration	2001	\$0	\$0	\$0	\$0	\$0	\$18,063	\$0	\$0
Basketball court color coat	2011	\$0	\$0	\$0	\$0	\$0	\$4,250	\$0	\$0
Basketball court goals	1991	\$0	\$0	\$0	\$0	\$0	\$3,600	\$0	\$0
<i>Tennis Court</i>									
Tennis court restoration	1998	\$0	\$0	\$30,600	\$0	\$0	\$0	\$0	\$0
Tennis court color coat	2008	\$0	\$0	\$7,200	\$0	\$0	\$0	\$0	\$0
Tennis court net posts	1998	\$0	\$0	\$2,400	\$0	\$0	\$0	\$0	\$0
Tennis court practice wall	2009	\$0	\$0	\$0	\$0	\$0	\$2,800	\$0	\$0
10' chain link fence around tennis court	1988	\$0	\$0	\$12,600	\$0	\$0	\$0	\$0	\$0
<i>Tot Lot</i>									
Tot lot renovation	2009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Asphalt trail</i>									
Asphalt trail	2004	\$0	\$0	\$0	\$11,375	\$0	\$0	\$0	\$0
<i>Miscellaneous Site Items</i>									
Picnic tables, trash cans, benches, bike rack	2003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,750
Metal storage box	2011	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$500
Storm water management pond cleaning/grounds	2015	\$0	\$0	\$0	\$0	\$3,000	\$0	\$0	\$0

Total Expend.	\$0	\$0	\$52,800	\$11,375	\$3,000	\$28,713	\$0	\$9,250
Deposit	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640
Balance	\$69,140	\$80,780	\$39,620	\$39,885	\$48,525	\$31,453	\$43,093	\$45,483

Inflation rate =	0.00%	Minimum Balance =	\$31,453
Total Value of Assets=	\$157,138	Deposit =	\$11,640
20% of Total Value of Assets=	\$31,428	10% Contingency =	\$1,164
		Total Deposit =	\$12,804

RESERVE SCHEDULE
(Cash Flow Method)

	2024	2025	2026	2027	2028	2029	2030	2031	2032
CASH FLOW METHOD									
Basketball Court									
Basketball court restoration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Basketball court color coat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,250	\$0
Basketball court goals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tennis Court									
Tennis court restoration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tennis court color coat	\$0	\$0	\$0	\$0	\$7,200	\$0	\$0	\$0	\$0
Tennis court net posts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tennis court practice wall	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10' chain link fence around tennis court	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tot Lot									
Tot lot renovation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asphalt trail									
Asphalt trail	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous Site Items									
Picnic tables, trash cans, benches, bike rack	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Metal storage box	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Storm water management pond cleaning/grounds	\$0	\$3,000	\$0	\$0	\$0	\$0	\$3,000	\$0	\$0
Total Expend.	\$0	\$3,000	\$0	\$0	\$7,200	\$0	\$3,000	\$4,250	\$0
Deposit	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640
Balance	\$57,123	\$65,763	\$77,403	\$89,043	\$93,483	\$105,123	\$113,763	\$121,153	\$132,793

RESERVE SCHEDULE
 (Cash Flow Method)

	2033	2034	2035	2036	2037	2038	2039	2040	2041
CASH FLOW METHOD									
Basketball Court									
Basketball court restoration	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,063
Basketball court color coat	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,250
Basketball court goals	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tennis Court									
Tennis court restoration	\$0	\$0	\$0	\$0	\$0	\$30,600	\$0	\$0	\$0
Tennis court color coat	\$0	\$0	\$0	\$0	\$0	\$7,200	\$0	\$0	\$0
Tennis court net posts	\$0	\$0	\$0	\$0	\$0	\$2,400	\$0	\$0	\$0
Tennis court practice wall	\$2,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10' chain link fence around tennis court	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tot Lot									
Tot lot renovation	\$0	\$55,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asphalt trail									
Asphalt trail	\$0	\$11,375	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous Site Items									
Picnic tables, trash cans, benches, bike rack	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Metal storage box	\$0	\$0	\$500	\$0	\$0	\$0	\$0	\$0	\$0
Storm water management pond cleaning/grounds	\$0	\$0	\$3,000	\$0	\$0	\$0	\$0	\$3,000	\$0
Total Expend.	\$2,800	\$66,375	\$3,500	\$0	\$0	\$40,200	\$0	\$3,000	\$22,313
Deposit	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640	\$11,640
Balance	\$141,633	\$86,898	\$95,038	\$106,678	\$118,318	\$89,758	\$101,398	\$110,038	\$99,365