

Reserve Study

Southern Village HOA

Chapel Hill, NC

Inspection Date:

December 11 & 13, 2012

Prepared For:

Southern Village Homeowners' Association

Prepared By:

Raymond Engineering, Inc.
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Report Number:

121112507

Inspector:

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A handwritten signature in cursive script that reads "Bruce Raymond".

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RESERVE SCOPE

The scope of the Reserve Study for the Southern Village Homeowners' Association in Chapel Hill, North Carolina, is based on the proposal submitted May 22, 2012 and revised September 30, 2012. Southern Village had a reserve study performed in December of 2007 (Raymond Engineering report No.121908501, dated December 19, 2007). The following report is an update of the previous study and is a stand-alone report. As delineated in the proposal, the updated study covers the following portions of Southern Village Ridge:

- Parks owned by the HOA
 - Playground equipment and other amenities
- Retaining walls owned by the HOA
- Green spaces owned by the HOA
- Alleyways owned by the HOA
- Town Home Exteriors (roof as noted below and exterior painting)
- Four ponds

Excluded from the study are:

- Sidewalks and roadways, maintained by others
- Alleyway owned by Chapel Hill (behind High Grove Townhomes)
- Street lighting
- Entrance signage and lighting at Market Street entrance

As noted above, the May 22, 2012 reserve study update proposal was revised based on a meeting with Peggy Akers on September 26, 2012. The original proposal for the updated study (May 22, 2012) included walking one roof of each of the townhome complexes. A request was submitted to walk every roof in all of the townhome complexes and (2) include photographs of each issue found on each roof, denoted by unit location. As this was a significant increase in scope (price), the scope was re-defined as follows (September 30, 2012 revision):

- One roof in each complex to be walked
- All other roofs will be inspected from the top of a ladder to determine remaining age
- The alleys will be traversed either on foot or in a vehicle.

The goal is to determine the age/condition of the roofs to help predict replacement needs and to remain within the originally quoted budget.

The subdivision property was inspected on December 11 and 13, 2012. This included walking the roofs of the townhomes/buildings noted below. The total number of buildings is included. The remainder of the buildings were inspected from the top of a ladder. This was done (top of ladder) to determine if these roof ages were effectively the same as the roofs walked. Hence, this allows us to better determine the remaining life of all buildings and forecast an approximate period to re-shingle:

Address	Total No. of buildings	Buildings “Walked”	No. of roofs inspected from ladder
• Westside	1	101-123	0
• Nolan	2	100-122	1
• Glade	1	100-122	0
• Highgrove	2	900-920	1
• Westgreen	2	104-118	1
• Greenview	3	200-212	2
• Copperline	6*	500-516	5
• Brookgreen	2	200-210	1

* There are six townhome buildings on Copperline. Based on the previous study, only five buildings are to be included. Therefore, this study only includes the five from the previous study.

CONDITIONS & ASSUMPTIONS

The study projects the cost over the next twelve years for the maintenance and the replacement of major items and systems. Routine and customary maintenance are not included. The landscape cost was included even though it is a routine and customary maintenance because of its large amount. The estimates are from the 2007 study and have been escalated to today's

dollars based on the inflation rate noted below. The original estimates used were provided by Ecoscapes. As with any study of this nature, the further into the future the study goes, the less reliable the data. Unforeseen economical events can alter cost significantly. The study is based on industry standard replacement costs (National Construction Estimator, Means Building

Constriction Cost Data or Means Facilities Maintenance & Repair Cost Data Publications). A flat inflation rate of 4.5% was used to project costs calculated in year 2012 dollars.

SUMMARY

A previous reserve study was performed in December 2007. This is an update of that reserve study. Based on property review many of the items noted in the 2007 reserve study have been repaired or improved. In particular, over coating the alleyways will extend the life of the pavement as noted in the 2007 study. The over condition was an improvement from the 2007 condition.

Table I provides an overview of immediate repairs and reserves that will be necessary. Details are provided in Table II (Immediate Repairs) and Table III (Replacement Reserves).

The overall condition of portions of Southern Village is good. The subdivision is relatively young and therefore, major items will not require replacement in the near future. Additional information/improvements for three items follows (see Observation section below).

OBSERVATIONS

- **Observation:** The pond by the school and the one next to Brookgreen appear to have “bubblers”. There was no evidence of “bubblers” in the other two ponds. Based on conversation with board members during the 2007 study, bubblers were added to these two ponds only to help prevent “fish kills” due to stagnant water.
- **Observation:** Three of the ponds (pond between US 15-501 and Parkside; pond next to Fan Branch Creek and Brookgreen and pond at the corner of Highgrove and Glade) are not fenced. The fencing around the pond in front of the elementary school is more decorative than for security. Fencing the ponds should be considered to reduce liability to the Homeowners’ Association. According to conversation with board members during the 2007 study, previous legal advice was to leave ponds “unfenced”.
- **Observation:** The homeowner at the stub end of the ally that runs from Parkside to Meeting asked if a “Dead End” road sign could be added. According to the owner, he had to replace his mailbox three times due to vehicles attempting to turn around at the stub end at his house.
- **Observation:** As noted during the 2007 study the stoops in front of the townhomes located in 500-516 Cooperline have settled. This same type of settlement was noted at the steps in front of the Westgreen townhomes. This may be a safety issue as the first step down is significantly larger than the others (trip hazard) are. This is an individual owner responsibility.



Excessive settlement, 2007 photograph – Copperline
Excessive settlement, 2012 photograph – Westgreen



- **Observation:** As reported in 2007, when building exteriors (townhomes) are painted, contractors should include the rake trim between the units. In several areas, this appears to have been left out of the most recent painting. In addition, the painted surfaces that have peeling paint need to be scraped in order to achieve expected life from new paint. Most of the rake trim observed while walking the roofs needs to be scraped.



Sample – rake trim left out of the most recent painting (2007)
Rake trim needing to be scraped



- **Observation:** When buildings are re-painted, all wood rot needs to be addressed. In several locations, it appears that trim rot was over painted.



Sample – painted over rot

- **Observation:** Vegetation should be removed from areas where it is in contact with buildings. Vegetation too close to building holds moisture next to a building and provides easy egress for insects.



Sample – vegetation too close to building

- **Observation:** Roof shingle staining was noted in several areas. Staining rarely causes an issue with roof performance or life. This a cosmetic issue. Care must be exercised if staining is removed; staining removal can damage or reduce the life of the shingles.



Sample – roof staining

- **Observation:** Good erosion control has been put in place at the entrances to Arlen Park.



Sample – good erosion control

- **Observation:** Catch basins need to be periodically cleaned so that they may function as intended. The catch photographed below is along the trail behind the tennis courts at the Brookgreen complex. **Update:** catch basin has been cleaned.



Sample – catch basin needing cleaning

- **Observation:** In many locations, the trees along the sidewalks have lifted sidewalk pads making a trip hazard. This condition was observed in many locations throughout Southern Village. This is not an HOA issue; however, the trip hazard should be noted to the city maintenance department.



Sample: raised side walk

IMMEDIATE REPAIRS

The following items are in need of immediate repair. A cost estimate is provided in Table II for each item, with the exception of the exterior building repairs (rot in trim/windowsills) and the railing repainting; these are being quoted by others. Updates from the January 8, 2013 meeting have been included

- **Repair:** The overflow outlet pipe from the pond located between US15-501 and Parkside is under eroded. Concrete should be added to prevent further erosion. There is no immediate danger; however, continued erosion will alter this conclusion. **Update:** estimates for repair are being obtained.



Under eroded outlet

- **Repair:** The pavement at the catch basin at the end of the ally near the Westside/Highgrove intersection needs repair. The pavement has settled and water collects at the low spot. The pavement should be cut and repaired to prevent ponding water. The catch basin in the ally from Parkside to Meeting has been marked presumably for the same repair. The catch basin in the ally paralleling Parkside also needs the same repair. **Update:** estimates for repair are being obtained



Pavement repair needed:
Ally near Westside/Highgrove intersection
Ally from Parkside to Meeting



Pavement repair needed:
Ally paralleling Parkside

- **Repair:** The sidewalk along Brookgreen at the bridge over Fan Creek (sports complex side) needs to be replaced to prevent water from ponding.



Ponding water on sidewalk

- **Repair:** There is exposed re-bar in Arlen Park (along Westgreen side). This is a safety issue and the exposed re-bar needs to be removed. Exposed re-bar along the Eastgreen side was reported in 2007. **Update:** repair in process, several pieces of exposed re-bar have been removed and work will continue until all have been removed



Sample – exposed re-bar (several in same area)

- **Repair:** The retaining wall is leaning and in need of repair along the Eastgreen side of Arlen Park. **Update:** estimates for repair are being obtained



Leaning retaining wall

- **Repair:** The hillside in Arlen Park along the Eastgreen side needs stabilization to prevent erosion. The vegetation along Westside near Newell Drive is performing well and can be used as a guide. **Update:** landscaper feels soil is stable due to tree roots



Erosion control needed
Good erosion control



- **Repair:** The cover for the landscape valve enclosure along the trail next to the Brookgreen soccer field is missing (this is a safety issue). The cover needs to be replaced. **Update:** repaired



Missing cover

- **Repair:** The fence at the small park next to Edgewater and Fan Creek (south end) is broken and needs to be repaired. **Update:** repaired



Broken fence

- **Repair:** All of the walked roofs were in need of minor repair: torn shingles at ridges (exposed wood), deteriorated vent boots (some have been re-capped), lifted flashing, raised shingles and damaged shingles (along edges). Table II includes monies to repair all townhome roofs. The estimate assumes that the roofs inspected from the top of a ladder will have similar issues. **Update:** estimates for repair are being obtained



Sample – roof repairs:
Torn shingle (wood exposed)
Deteriorated vent boot





Sample – re-capped vent boot

Lifted flashing (Middle of Westside roof walked)



Sample – raised shingle

Sample – damaged edge shingles



RESERVES

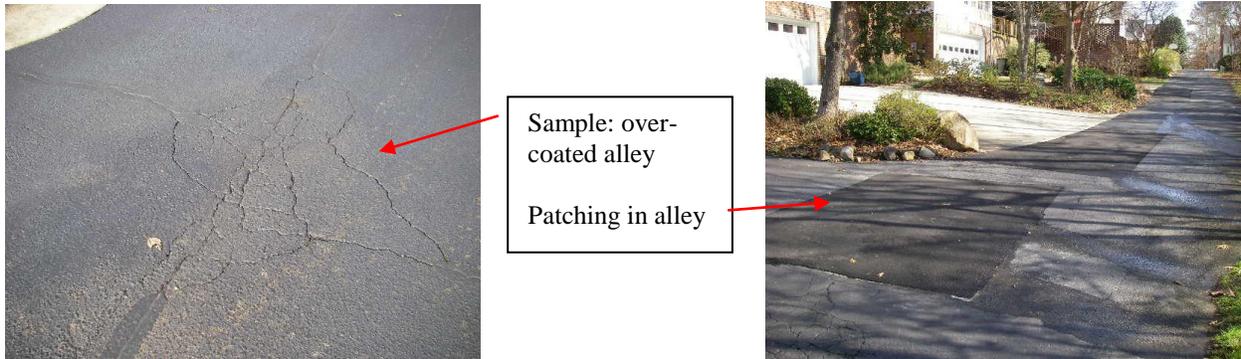
The following information is being provided in support of Table III, Reserves.

- Creek channels need to be periodically cleaned (remove collected debris and cut small saplings) to assure that the channels flow freely in heavy weather events. **Update:** obtaining estimates.

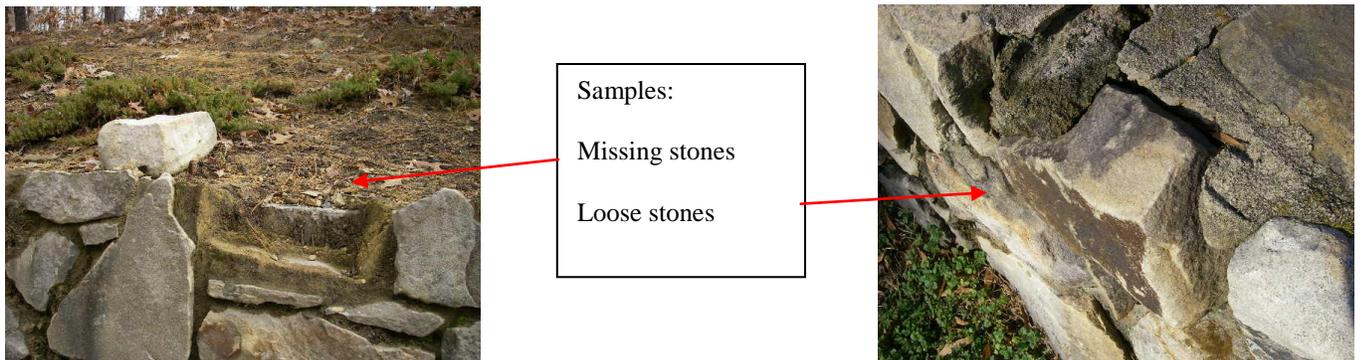


Channel needing cleaning

- The alleys are in good condition. Some of the alleys have been over-coated to extend life, others have not. Patching has been performed in many locations. Sealing the cracks in the alley pavement and weed killing the vegetation in the cracks will extend the life of the pavement. Monies to periodically perform this task are included in Table III.



- The landscape dollars are not included in this Reserve Study as they are an operational expense. Ecoscapes (Jimmy Lloyd) provided a monthly estimate of \$6,900 in 2007. According to Mr. Lloyd, leaf removal and mulching costs are not included in the estimate, as both are outside of the contract.
- Park maintenance reserves include minor repairs to playground equipment and painting as needed.
- Some of the rock walls need repair for missing and/or loose stones. Monies have been budgeted to periodically inspect and repair the walls as necessary.



- The study includes replacement of the footbridge beyond Hillsprings Park, (also noted in 2007 study).
- Pond inspections include inspection of the ponds and emergency overflow. Because of these inspections, no monies are included for repairs. The inspections are every three years; this should provide early warning of the need for repairs.
- Based on the current condition; the four playgrounds will need equipment replaced in approximately 10 years. Table III has \$10,000 per year, for three years starting at year 10, to begin replacing each area at the rate of 1 per year. Depending on the type of equipment, \$10,000 per area is an estimate. More than three years will be needed (study ends at year 12) to complete all parks.

- It is assumed that gutter cleaning is included in the routine maintenance budget. Some gutters will require more frequent cleaning than others will (determined by location and surrounding trees).



Sample: gutters
needing cleaning

Raymond Engineering, Inc.

Table I, Reserve Summary

Client: Southern Village
Address: US 15-501
City & State: Chapel Hill, North Carolina
Buildings: 16

Survey Date: December 11, 2012
Analysis Term: 12 years

Item	Condition					Immediate Repairs	Reserves
	Excellent	Good	Fair	Poor	N/A		
Site/Grounds							
Topography/Drainage		✓				\$2,000.00	\$16,000.00
Pavement & Parking		✓				\$5,500.00	\$350,272.80
Landscaping		✓				\$5,350.00	\$0.00
Signage		✓					
Amenities					✓	\$300.00	\$56,000.00
Lighting					✓		
Buildings							
Roofing		✓				\$14,400.00	\$475,025.20
Exterior		✓					\$391,437.36
Framing					✓		
Foundations					✓		
Basement/Attic					✓		
Interiors							
Finishes					✓		
Components					✓		
Systems							
Plumbing					✓		
HVAC					✓		
Electrical					✓		
Fire/Safety					✓		
Code Compliance							
Code Compliance					✓		
Other							

Dollars shown are current (2012) dollars

Raymond Engineering, Inc.

Table II, Immediate Repairs

Client: Southern Village
 Address: US 15-501
 City & State: Chapel Hill, North Carolina
 Buildings: 16

Survey Date: December 11, 2012
 Analysis Term: 12 years

Item	Recommended Work	Qty	Unit Cost	Unit Description	Est. Cost	Comments
Site/Grounds						
Topography/Drainage	Repair Culvert	1			\$2,000.00	Repair under eroded culvert, Pg 6
Pavement & Parking	Repair at Catch Basin	3	\$1,500	Each	\$4,500.00	Repair low areas at alley catch basins, Pg 7
	Repair Sidewalk	1 lot			\$1,000.00	Repair sidewalk at Brookgreen bridge, Pg 7
Landscaping	Remove Re-bar	1 lot			\$700.00	Remove re-bar protruding in Arlen park, Pg 8
	Repair Retaining Wall	1 lot			\$3,000.00	Repair leaning retaining wall, Arlen Park, Pg 8
	Erosion Control	1 lot			\$1,500.00	Re-plant hillside, Arlen Park, Pg 8
	Missing Cover	1			\$150.00	Replace missing valve enclosure cover, Pg 8
Signage	Repair Fence	1 lot			\$300.00	Repair broken park fence, Pg 9
Amenities	None					
Lighting	None					
Buildings						
Roofing	Minor repair	18	\$800	Per building	\$14,400.00	Estimate assumes all building in similar condition, Pg 9
Exterior	None					
Framing	None (not inspected)					
Foundations	None (not inspected)					
Basement/Attic	None (not inspected)					
ADA	None (not inspected)					
Interiors						
Finishes	None (not inspected)					
Components	None (not inspected)					
Systems						
Plumbing	None (not inspected)					
HVAC	None (not inspected)					
Electrical	None (not inspected)					
Fire/Safety	None (not inspected)					
Code Compliance						
Code Compliance	None (not inspected)					
Other	N/A					
N/A						

Total \$27,550.00
 1.25 Multiplier \$34,437.50

Table III, Reserve Details

Raymond Engineering, Inc.
 Client: Southern Village
 Address: US 15-501
 City & State: Carboro, North Carolina
 Buildings: 16

Survey Date: December 11, 2012
 Analysis Term: 12 Years

Recommended Work	Ave. Life (yrs)	Effective Age	Remaining life	Qty	Qty/Yr	Unit Cost	Unit Description	Est. Cost/Yr	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Total Over Term			
Site/Grounds																								
Topo/Drain																								
Culvert Cleaning/Inspect	50	15	35	52	26	\$250.00	Lor sum	\$6,500					\$6,500									\$13,000		
Clean Creek Channels	50	15	35	2	2	\$1,500.00	Lor sum	\$1,500				\$1,500											\$3,000	
Pave/Park																								
Minor Repair Between Paving	25	15	10	194,515	39000	\$0.75	Sq Ft	\$29,250	\$29,250													\$58,500		
New asphalt	25	15	10	194,515	194,515	\$1.50	Sq Ft	\$291,773															\$291,773	
Landscape																								
Operational Expense	N/A																							
Amenities																								
Park Maintenance	N/A								\$3,000														\$9,000	
Wall Maintenance	N/A								\$1,500														\$4,500	
Replace Bridge (Hillspring)	20	10	10	1	1	\$1,700.00	Lor Sum	\$1,700															\$1,700	
Pond Inspection	50	10	40	4	4	\$2,700.00	Lor Sum	\$2,700															\$10,800	
Play ground Equipment	20	10	10	4	1	\$10,000.00	Per Area	\$10,000															\$30,000	
Buildings																								
Roofing																								
Roof Replacement:																								
104-116 Westgreen	20	15	5	29185	29185	\$2.00	Sq Ft	\$58,370		\$58,370													\$58,370	
100-214 Westgreen																								
200-212 Greenview																								
Roof Replacement:																								
201-207 Greenview	20	13	7	60309.6	60309.6	\$2.00	Sq Ft	\$120,619			\$120,619													\$120,619
100-123 Westside																								
100-122 Nolen																								
Roof Replacement:																								
101-123 Nolen	20	12	8	57215.6	57215.6	\$2.00	Sq Ft	\$114,431			\$114,431													\$114,431
100-122 Glade																								
Roof Replacement:																								
200-210 Brookgreen	20	11	9	44272.8	44272.8	\$2.00	Sq Ft	\$88,546																\$88,546
900-920 Highgrove																								
1000-1020 Highgrove																								
Roof Replacement:																								
401-415 Coppelline	20	10	10	46529.6	46529.6	\$2.00	Sq Ft	\$93,059																\$93,059
400-410 Coppelline																								
500-516 Coppelline																								
520-536 Coppelline																								
Exterior																								
Exterior paint:																								
200-210 Brookgreen	5	4	2	54420	54420	\$0.90	Sq Ft	\$48,978																\$48,978
401-415 Coppelline																								
400-410 Coppelline																								
412-422 Coppelline																								
200-212 Greenview																								
100-123 Westside																								
100-122 Nolen																								
Exterior paint:																								
104-116 Westgreen	5	4	2	54420	54420	\$0.90	Sq Ft	\$48,978																\$48,978
100-214 Westgreen																								
500-516 Coppelline																								
520-536 Coppelline																								
201-207 Greenview																								
900-920 Highgrove																								
1000-1020 Highgrove																								
101-123 Nolen																								
100-122 Glade																								
Interiors																								
Annual Requirements, Uninflated									\$81,501															\$81,501
Inflation Factor (1.04%/year)																								\$146,934
Annual Requirements, Inflated																								\$244,503
Annual Requirements, Uninflated									\$62,728	\$139,871	\$123,319	\$115,931	\$128,796	\$144,737	\$68,978	\$94,201	\$1,288,735							\$1,288,735
Inflation Factor (1.04%/year)									\$1.04	\$1.08	\$1.12	\$1.17	\$1.22	\$1.27	\$1.32	\$1.37	\$1.42	\$1.48	\$1.54	\$1.60	\$1.66	\$1.72	\$1.78	\$1,671,838
Annual Requirements, Inflated									\$66,037	\$151,285	\$138,717	\$135,623	\$156,700	\$183,139	\$107,250	\$90,794	\$465,497	\$90,794	\$150,819	\$1,671,838				\$1,671,838