Estimating Capital Reserve Construction Costs: Coming up Short?

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Here is a familiar scenario that we hear all too often:
"…Our association is embarking on a much needed reconstruction project; however, we have found out that we have less than half of the monies needed for the work in our reserve account. How did this happen? What do we do now?"

The property managers, accountants, and attorneys who work with community associations know this cry for help sounds all too familiar as the hundreds of communities constructed in the 1980's and 1990's are aging. Most times the answer to the question, "What do we do now?" includes special assessments, bank loans, or worse, using inferior reconstruction materials or methods to cut costs (often creating future maintenance or functional issues), or some combination of all three.

What happened? Simply put, the estimates of the construction costs listed in the reserve analysis are wrong and unrealistic or outdated. Who gets the blame? Usually, and often unjustly, the current property management and/or professional team bear the burden of blame. The real culprit is typically no longer involved in the community.

The primary purpose of a capital reserve funding analysis is to offer recommendations as to the amount of monies an association or other form of ownership should fund on a yearly basis for the future replacement of commonly owned elements of a single or multi-family development. The analysis and recommendations are important in that they help to avoid possible future special assessments of the individual unit owners. The analysis should be in the best interest of the community. The analysis should take into account the site-specific existing conditions, their useful lives, and the realistic replacement costs based upon actual material costs and the site-specific individual item's method of reconstruction.

Unfortunately, and far too often, associations are finding themselves in an underfunded position at the time of the inception of a major replacement project. Whether reconstructing roadways, sidewalks, roofs, or other aspects of the community, the association relies on the funding that has been recommended and established over the useful life of the item. Many times, the association schedules and bids the reconstruction project only to find that the proper funds are not available.

The replacement costs shown in the funding table or analysis are many times taken from an estimating book or, worse, an outdated estimating book. Many times, it appears that these estimates are not being performed properly.

While the unit costs provided in the funding table for the replacement of the capital reserve items should be based upon a number of sources, including published documentation on replacement costs, they more importantly should be based upon experience in site and building construction. The individual reconstruction or replacement of each item should be analyzed and the resulting unit costs should be adjusted accordingly. Individual (site-specific) characteristics affecting the unit costs are different on every site and the replacement costs should be adjusted accordingly.

Existing site conditions, the size (scale) and scope of the future replacement project, the job access locations, the site restoration costs and presence of existing components are all variables that affect the item's replacement costs. Many times, the unit replacement costs shown in these studies barely cover the cost of materials for the item. Experienced personnel should be performing both the inspections and the cost analysis.

This is an unacceptable error, and is by far the most glaring and unexplainable reason for underfunded reserves.

Estimating 101 (Short and Simple)
Here are two (2) examples of the erroneous estimating that may exist in some association's reserve funding plans:

Situation 1: The association will eventually need to reconstruct the driveways of the community.
An Improper Estimate: Asphalt overlays are listed as a line item in an estimating book at $8.95 per square yard (SY), there are 4,114 square yards, so the replacement cost is 4,114 x $8.95 or **$36,820.30.**

A Proper Estimate: The driveways have significant failures, they are individually small in size, they are very flat and, in some cases, back pitched towards the garage and the pavement surface is flush with the garage aprons, sidewalks and curbs. Since the driveways are failing, it appears that the driveways have a deficient section thickness of asphalt. Based on all of the previous observations, a complete removal and replacement will be required.

Using 2012 costs and actual site variables:		
Remove existing asphalt:		$5.80/SY
Excavate/grade for desired section:		$2.64/SY
Install Granular Sub-Base/Drainage:		$5.27/SY
Install Base material (slow hand work required, not like a roadway):		$9.18/SY
Install surface material (slow hand work required, not like a roadway):		$5.22/SY
Topsoil and seed edges:		$0.25/SY
	Sub-Total:	$28.36/SY
	Add contingency (+10%) for unknown conditions	$2.84/SY
	Grand Total	$31.20/SY
Therefore, the replacement cost is 4,114 x $31.20 or $128,356.80.		

Situation 2: The association will eventually need to replace the wood siding (1/2" x 6" A-grade cedar) of the community.
An Improper Estimate: Wood siding is listed in an estimating book at $5.65 per square foot (SF), there are 195,500 square feet, so the replacement cost is 195,500 x $5.65 or $1,104,575.

A Proper Estimate: The buildings have a history of leaks, and will therefore most likely require new flashings and underlayment. The buildings are intricate with various small sections, thus will require a comparatively large quantity of corner pieces. The buildings have extensive ornamental trim. The buildings are two (2)

stories tall and will therefore require pump staging/scaffolding to reside.

Using 2012 costs and actual site variables:		
Staging:		$0.15/SF
Remove siding and underlayment:		$1.14/SF
Disposal of siding:		$0.51/SF
Replace random framing/sheathing:		$0.75/SF
Install new underlayment:		$0.28/SF
Allowance for general trim:		$0.31/SF
Allowance for corner trim:		$0.25/SF
Install metal flashing at openings and terminations:		$0.16/SF
Install new 5/8” beveled cedar siding:		$5.65/SF
	Sub Total:	$8.16/SF
	Add contingency (+10%) for unknown conditions	$0.82/SF
	Grand Total	$8.98/SF
Therefore, the replacement cost is 195,500 x $8.98 or $1,755,590.00.		

As can be seen, the differences are enormous and can be detrimental to a community. The greater the scale of the project, the greater the potential magnitude of error.

Prevention:
Continued periodic reserve analysis updates using actual site conditions and realistic replacement dates and costs are the most effective way (if not the only way) to ensure that an association’s capital reserve fund is being properly funded. Reserve Specialists (R.S.) and Professional Engineers in the industry should inspect the property and provide accurate estimates suitable for use in reserve budget analyses.

Some older communities that have fallen prey to cost estimating inaccuracies in reserve analyses from years in the past and are feeling the effects only now. Other communities undoubtedly have the same problem but currently remain unaware of the problem and the likely consequences for the community and its residents. Periodically updating of the association’s reserve analysis by qualified professionals is a necessity.