



Community Association Engineering

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REPLACEMENT RESERVE STUDY UPDATE

for the

Marshall Heights Homeowners Association

Fairfax County, Virginia



August 2009

INTRODUCTION

At the request of the Marshall Heights Homeowners Association, Community Association Engineering has prepared the following replacement reserve study update of the community owned and maintained common elements found at Marshall Heights.

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 Schedule
6. Qualifying Statements

Please direct any question you may have regarding this study to Community Association Engineering at the phone number and address listed on the cover sheet of this document. For cell phone hours on weekends and evenings, see <http://www.cae.us.com> for contact information.

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 agents.
- Site inspections performed by Community Association Engineering
- Subdivision & Site Development Plans prepared by Matthews, Wheatley and Allison.
- Professional opinion supplied by contractors of relevant trades.
- 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:

- Asphalt Paving
- Conc. Curb & Gutter
- Conc. Walk & HC Ramps
- Street/Misc. Comm. Signs
- Storm Drainage/Erosion
- Parking Lot/FL Striping
- Retaining Walls
- Low Garden Walls
- Entrance Feature/Sign
- Misc. Improvements
- Tot Lot/Play Area
- Chain Link Fencing
- Mailbox Cluster (USPS)
- SWM Pond (Ffx. County)

Only the items listed in the attached replacement reserve schedule were analyzed. Community Association Engineering 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 tape measured in the field or measured off available site plans.

3. Results of Research and Inspection

Description and Age of Facilities

The Marshall Heights community is a 179-unit townhome development with main entrances located at the street intersection of George C. Marshall Drive and Dominion Way in Falls Church, Virginia. Sections 1, 2 & 3 of the community were developed and constructed between 1983 & 1985 and Section 4 was completed between 1985 & 1986 and we estimate the community to be an average age of 25 years old for the purposes of the study. Ages based on information obtained from Fairfax County records.

Maintenance to Date

Available maintenance records provided by the Management indicated that major asphalt pavement repair and restoration had been performed last year on all community maintained private streets and parking areas. Information from these documents as well as references to maintenance in the previous reserve study report (2006) prepared by The Breckstone Group, Inc. were considered and used as references for estimating remaining useful life for components in compiling this report. It appears, based on our inspections, that routine maintenance is generally being performed on the common elements of the community.

4. General Comments

Following are brief comments on selected line items in the reserve schedule presented herein for clarification or general information purposes:

Asphalt Restoration

Asphalt pavements of the type found at Marshall Heights community are typically milled down and resurfaced, rather than completely replaced, when they reach the end of their useful life. Original pavement installations are typically estimated to have a useful life of 16 to 20 years in the Northern Virginia area. Resurfacing will generally have a shorter life span than the original pavement installation and is estimated between 10 to 14 years. The actual life of a resurfacing restoration is highly dependent on the extent and quality of repair and preparation work that must be performed prior to overlay installation. Having not inspected the 2008 project, we are assuming that the repair work was performed to industry standards, since streets and parking areas were found in serviceable condition.

We have scheduled for major restoration of all community streets in 12 years based on the conditions found. If the aesthetic appearance (“curb appeal”) of the streets is important, the community may wish to consider major restoration earlier. Existing and potential drainage problems will need to be carefully reviewed prior to any major restoration to mitigate creating new or exacerbating existing deficiencies.

Crack Seal/Pavement Repair

An estimated 10% of the total asphalt pavement area is assumed to require patching repairs and crackfilling with appropriate filler materials approximately every 5 years and this item is shown in the reserve schedule on this restoration cycle. We have set this cycle at the beginning (remaining life = 5 years) for all streets so as not to skew the computed annual contribution.

Please note that drainage runoff infiltration into the pavement subsurface can have a negative impact on the estimated useful life of the community pavements. Pavement patching and crackfilling are part of the normal and necessary maintenance needs of an asphalt pavement system to reduce drainage runoff infiltration. The consideration of underdrainage at particularly saturated areas should be determined at the time of a patching or resurfacing cycle.

Asphalt Seal Coat (Optional)

This item is not included in the reserve schedule since it is an optional pavement maintenance item. It does not appear that the community has applied a sealcoating in the recent past and it is therefore not included in this draft issue. If the Association wishes to include it, please let us know during the review of the draft version of this study.

Asphalt sealcoating exists in two basic forms, which are generally marketed in the Northern Virginia area. The first is the more common coal tar sealer and the second is a product called Pavement Dressing Conditioner or Rejuvenator (PDC). Coal tar sealers are generally touted as being able to extend the total life of an asphaltic pavement by approximately 3 to 5 years through the process of reducing the impacts of moisture from rain and harmful ultraviolet rays from the sun when applied on a regular basis over the life of a pavement. PDC manufacturers and contractors claim that their product not only performs the same function as coal tar sealers, but that PDC actually "rejuvenates" the liquid asphalt in the pavement, by chemically changing the viscosity of the stiff, oxidized asphalt material. This is claimed by the manufacturers and distributors to extend the life of the pavement from 5 to 7 years over the total lifespan of a pavement.

Community Association Engineering has had principals from both types of sealing companies give presentations to our firm on their products, the purported benefits and associated costs in the past. At this time, we have no professional opinion for or against these products, but do not consider them as minimum required maintenance for asphalt streets. The sealers do, however, provide a uniform "blacktop" appearance, which does have some aesthetic merit worthy of consideration at appropriate times, however this is not a technical quality, so our firm is not opining on that aspect of the product's use. This uniform appearance may be desirable on streets that have significant areas of color differential due to oxidation, prior or planned asphalt patching and crackfilling. Should the Board elect to have a line item in their study for sealcoating, the inclusion of this line item in the study does not constitute an endorsement by our firm of sealcoating products.

Parking Areas, Fire Lane marking & pavement striping

This line item provides funding for fire lane curb painting, painting of parking space stripes and curb stencils. Parking lot striping is currently in adequate condition. We noted that some fire lane yellow markings on the curbs are peeling off or flaking, which needs to be cleaned and repainted with the correct type of paint materials typically specified for fire lane markings. These conditions should be monitored regularly to determine the appropriate time for repainting.

Concrete Replacement

An estimated 5% of the total quantity of concrete pavement, pads, curb/gutter, sidewalk and curb accessible ramps are assumed to require replacement every 6 years and these items are shown in the reserve schedule on this restoration cycle. We have set this cycle at the beginning (remaining life = 6 years) so as not to skew the computed annual contribution. Concrete work will be required during asphalt pavement restoration to correct existing and potential drainage deficiencies.

Concrete should be routinely inspected for cracking, settlement, or other signs of deterioration. Cracks should be cleaned and filled as soon as possible to help prevent further damage to the concrete. Defective concrete, which poses a potential safety hazard, should also be considered for replacement. This would include tripping hazards (differential settlements of ½" of more), spalled concrete (containing sharp edges or surfaces) and areas of excessive water ponding.

Retaining Wall

A concrete masonry (brick-faced) retaining wall is found near the street intersection of Dominion Drive and George C. Marshall Drive and noted to be in good condition, of quality construction and appears to be structurally sound. A newer section of pressure treated timber wall (w/ metal safety railing) is also found within the common area located between Lots 26 & 27 in Section 2. No significant deficiency was noted on these newer wall structures other than a need to periodically clean out the drainage weep holes (which provide hydrostatic relief for the wall backfill).

An older section of pressure treated timber wall w/ split wood railing is found within the common area proximate to the property line of TH Unit #7798 - Marshall Heights Court. This retaining wall abuts the existing concrete walk along the Dominion Way right-of-way and is found to be in poor condition with significant wood deterioration. The wall appears to be partially failed and is vertically displaced from plumb. According to the previous 2006 reserve study report, the existing wall was been scheduled to be replaced this year. Based on our field inspection and visual evaluation of the observable portion of the wall, we concur with The Breckstone Group's report recommendation to replace the wall this year (this fall).

A building permit is required by Fairfax County for this type and size of retaining wall project. Since there is no way to economically determine if the wall is in imminent danger of collapsing and the ramifications of a wall failure would be potentially significant, given the wall's proximity to a dwelling and a public right-of-way and sidewalk, we recommend that the Association begin planning for the wall restoration immediately and proceed with the wall restoration work prior to this winter.

The services of a Professional Engineer are typically utilized to prepare the specifications and County-required permit (as our firm had done for the entrance walls on the other end of Dominion Way in 2005, including inspection of the work), so please let us know if you would like our firm to assist with this aspect of this needed maintenance.

The Association has the option to use similar materials (pressure-treated timber) or other alternative materials such as used as replacement to the wall system in 2005 located near the entrance off George C. Marshall Drive. Since the Association replaced previous walls with a concrete/brick option upgrade, we have assumed that approach for this replacement in the reserve study, rather than assume like-kind replacement with pressure treated lumber. Given the apparent immediate need for this repair, we have assumed, *for the future purposes of the financial computations of this study*, that the wall is fully repaired in the near future. Thus, we have deducted, from the reported reserve account balance, a total estimated cost of \$30,000 for the engineering, permitting and construction of the retaining wall replacement from the reported reserve account balance of \$94,500.00 to fund this recommended work (see note 3 on Attachment A).

All retaining walls should be routinely inspected by a qualified individual for evidence of deterioration, movement or displacement. Grades behind retaining walls should be maintained to provide positive drainage as intended by the original design. Wall drainage systems should be checked for proper function.

Small ("landscaping") Garden Walls

Landscaping (low, primarily timber) walls are also found throughout the common space. All landscaping style garden walls should be routinely inspected for any evidence of deterioration or displacement, which is critically important. Existing split rails on top of the walls in Section 4 serves as safety features and were found to be in disrepair. Railings should be properly secured (consider screwing rails into place) since pedestrian areas are directly above and below these low walls.

Grades behind these low walls should be maintained to provide positive drainage as intended by the original design. Wall drainage system should be checked for proper function. Since surface drainage does not appear to have been considered by the designer of these walls, attention should be paid to the wall concentrating runoff at terminus points to insure erosion does not compromise pedestrian areas or the wall integrity itself.

Entrance Feature/Community Sign

A main entrance feature with community sign is found at the northern corner of the street intersection of George C. Marshall Drive and Dominion Way. This entrance feature comprises of brick-faced masonry wall and brick planters and appears to be in adequate condition and of good construction with no significant issues or deficiencies other than some missing brick pieces on top of the wall.

Two smaller entrance features are also found at the street intersections of Dominion Drive & Dominion Heights Court and Dominion drive and Dominion Way, respectively. The wooden community signs are currently in fair condition. The signs should be inspected on a regular basis and repainted as necessary to ensure maximum longevity, enhance and maintain appearance and prolong the useful life of these components.

The entrance features and associated structures were found in generally adequate condition; however, there are moss growth and mortar joint deterioration noted in some areas of the structures. It is important to have the masonry work periodically cleaned to remove this growth and joints repaired to prolong its useful life. Existing landscape planting and vegetation should be trimmed back from and off these features.

Recreational Equipment / Tot Lot

The Marshall Heights community own and maintain one (1) recreational "tot lot" play area that is found within the common area in Section 4, proximate to Lot 160, on Hutchison Grove Court. Playground equipment and accessory fixtures appears to be in sound condition and of good quality construction. We noted that the base of the "bouncing horse" is loose (possibly loose bolt connections in the bottom) and also noted that there are two (2) sections of the tot lot perimeter wood fencing that are damaged and broken which needs to be replaced. Some rusty nails are sticking out of that same fence. Bushes and shrubs growing over the fence be trimmed to extend the life of the fence.

The mulched chip bed on the play area is in marginal condition in some areas and is in need of routine refurbishment. The tot lot should be inspected at least once a year (preferably in the spring) to ensure mulch chip bed is of adequate depth and that all play equipment is in good working order.

Chain Link Fence

An 8' high chain link fence (with black vinyl coating) runs along portions of the perimeter boundaries of the community. A short section of 6' high chain link fence is also found between Lots 26 & 27 in Section 2.

Additionally, a newer section of 4' high chain link fence has been installed recently along Leesburg Pike (Route 7) and in the vicinity of the dry detention pond in Section 4 as reported by HOA management. A visual observation of these fences show them to be in serviceable condition and do not appear to need immediate significant repair or replacement. We did note, however, that sizable areas of the fencing abutting the residential and commercial properties is overgrown with thick vegetation, bushes, volunteer trees and other vegetation, which should be removed to minimize deterioration of the fencing components.

It is important to maintain the connections, fasteners, foundations and surface of the wooden members and brick columns within fencing systems in order to obtain maximum useful life. Periodic cleaning and repainting will enhance appearances and will help maximize useful life. Routine inspection and regular reattachment of loose components and fasteners will help achieve maximum useful life of this element. Fences can lose as much as half their useful life if regular maintenance is not performed. Refer to your fence installation company for routine and periodic maintenance requirements.

Vegetation should be kept away from and off of all existing fences. Soil grades should be maintained below the bottom of wooden fences to help prevent rotting of the lower portion of fence boards.

Street Name, Stop Fire lane Signs

This line item is to fund replacement of the various no parking, traffic control, and information signs found throughout the community. Signs are currently found in adequate condition, though we noted some signs are leaning or not plumbed and must be reset properly.

Street/Area Lighting

Post mounted streetlights are found within the community. We assume that these common area lights are owned and maintained by the Association. The reserve schedule provides funding for replacement of the lights and an allowance for periodic restoration of electric wiring. Since no plans for the electrical system were available, a contingency for this line item may be appropriate, so a general contingency to the study recommendations has been added.

Cluster Mailbox Refurbish

A line item is included in the reserve schedule to provide a moderate level of refurbishing the community mailboxes. Refurbishing would involve cleanup of the aluminum doors and painting of the box and post. The mailboxes are labeled as property of the U.S. Postal Service; however, the post office typically will only maintain the boxes to a minimum level of serviceability. There is little, if any consideration given to the aesthetic appearance of the boxes. For more information on the maintenance of USPS mailboxes, please consult your local Postmaster.

Common Area Drainage/Erosion Control

There are a number of common area drainage issues and areas of slopes exhibiting various degrees of erosion generally behind the townhouses in Section 3. This area drains to the dry pond and within Section 4, between Hutchison Grove Court and Dominion Heights Court.

We have provided a line item in the Reserve Schedule for funding an "allowance" (amount of money for a general purpose, but not a specific project or element) for future drainage improvement projects in this area to address areas of erosion and lack of stabilization that are not positively draining, are eroding or are denuded that needs proper stabilization by providing lining materials, conveyance systems and/or groundcover.

We recommend that the Association consult an Engineer to provide proper guidance for any drainage or erosion project prior to bidding to site contractors experienced in this type of work due to the quantity of surface water, number of trees, utilities and slopes involved. Budgeting of approximately \$15,000 over a multi-year period is provided in the reserve schedule for these purposes.

Stormwater Management Pond

There are two (2) stormwater management detention facilities (dry ponds) found within the common area of Marshall Heights community. These water impoundments are located within County-owned storm drainage easements as indicated in the site plans our firm obtained from Fairfax County. SWM detention facilities of this type and within County easements are maintained, on a minimal level, by the County with regard to system function of major components. Associations typically address maintaining the pond's vegetation and grounds under operating budget landscaping budgets, therefore no funding for maintenance of these elements is reflected in the Reserve Schedule.

Stairs along Dominion Drive (within common area)

We noted that there are several types of steps with no railings and walks that exist (assumed installed by individual property owners) behind the townhouses which back to Dominion Drive in Section 4. Of these various types of steps, some of them appear to present a tripping hazard within the common space as well as a possible non-compliance with the local building codes. Because these steps are on common space, the responsibility for maintenance defaults to the Association and for this reason, we have included a line item for these steps in the Reserve Schedule.

The Association may wish to consult with their attorney and/or insurance underwriter on this matter. If the Association decides to replace or maintain these steps, the replacements and maintenance should be done in conformance with the local building code and should not present tripping hazards to users of the public sidewalk along Dominion Drive.

General

We strongly recommend a policy of preventative maintenance wherein problem areas are addressed before they escalate into more serious conditions. This is typically a more cost-effective approach in the long run and results in a community that has the appearance and functionality of being well maintained, thus helping to promote higher property values and desirability.

5. Reserve Schedule

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.

Attachment A (Reserve Schedule) is based in part on financial information obtained from the Association or their agents. The existing reserve account balance, as reported by management, of approximately \$94,500 has been reduced by \$30,000 (see Page 6 & 7) to fund immediate design, permitting and replacement of the existing retaining wall structure along Dominion Way. The remaining balance of \$64,500 is proportionally allocated among all reserve line items based on a ratio of a given line item's replacement cost divided by the total replacement cost of all line items. Please note that this pro rata allocation of existing funds may not match existing fund breakdowns currently utilized by the Association.

Based on information supplied by the Association, our measurements and "component method" calculations, it is our professional opinion that annual reserve contribution will need to be approximately **\$31,700** to adequately fund the reserve account at a 100% funding level. This includes a recommended 10% contingency factor to allow, to some degree, for unforeseen circumstances. When this figure is compared to the "Estimated Original Objective" (an estimation of what the annual contribution, in current day dollars, would have been when the community was new) of approximately \$28,000, it appears that the reserve account has been generally adequately funded in the past.

Our computations utilize a segregated, component method approach wherein a contribution rate for each reserve schedule line item is determined and then summed together with adjustments for existing reserve funds. Other methods of computing annual contribution levels exist, and while these methods may not be as conservative in their analysis, they may be appropriate for Marshall Heights. A financial advisor should be consulted to determine the suitability of alternate contribution methods. Any alternative contribution method considered should utilize the replacement costs, and useful and remaining life estimates contained in this report.

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 Attachment A have not been considered.

Community Association Engineering has prepared this study for the sole and exclusive use of the Marshall Heights Homeowners Association, Inc. 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 was noted, it has been mentioned in this 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 Marshall Heights Homeowners Association. Please direct any questions or comments regarding the contents of this report to Community Association Engineering.

Respectfully submitted, for Community Association Engineering, by:

Gregory J. Budnik, P.E.

ATTACHMENT A

Component Method Reserve Calculations
 Marshall Heights Homeowners Association
 Report date: August 2009

RESERVE SCHEDULE

ITEM	QUANTITY	COST PER UNIT	ESTIMATED CURRENT REPLACE COST	TOTAL EST'D USEFUL LIFE	EST'D REMAIN USEFUL LIFE	EST'D CURRENT OBJECTIVE	RESERVES ON HAND	EST'D ANNUAL DEPOSIT
Private Streets								
Asphalt resurfacing	9,980	\$18.00 /sy	\$179,640	14	12	\$12,831	\$34,019	\$12,135
Asphalt patching (10% of total pvmt per cycle)	998	\$25.00 /sy	\$24,950	5	5	\$4,990	\$4,725	\$4,045
Sidewalk replacement (5% of 18,500 SF)	925	\$8.00 /sf	\$7,400	6	6	\$1,233	\$1,401	\$1,000
Curb&gutter/HC ramp replace (5% of 5,850 LF)	293	\$28.00 /lf	\$8,204	6	6	\$1,367	\$1,554	\$1,108
Driveway apron (5% of 54 total aprons per cycle)	3	\$750.00 /ea	\$2,250	6	6	\$375	\$426	\$304
Parking lot / community signs	1	\$2,500.00 /ls	\$2,500	15	5	\$167	\$473	\$405
Parking lot striping / Firelane yellow marking	1	\$5,000.00 /ls	\$5,000	5	2	\$1,000	\$947	\$2,027
Subtotal			\$229,944			\$21,964	\$43,546	\$21,024
Site Improvements								
Tot Lot	1	\$15,000.00 /ea	\$15,000	25	15	\$600	\$2,841	\$811
Entrance features / Community signs	1	\$12,000.00 /ls	\$12,000	35	20	\$343	\$2,273	\$486
Street/Area lighting (incl. wiring allowance)	1	\$20,000.00 /ls	\$20,000	25	10	\$800	\$3,788	\$1,621
Brick faced masonry retaining wall (@ 50%)	120	\$60.00 /sf	\$7,200	30	25	\$240	\$1,364	\$233
Timber retaining wall (incl railing)	100	\$50.00 /sf	\$5,000	30	25	\$167	\$947	\$162
Small (landscaping) garden walls	1	\$7,000.00 /ls	\$7,000	25	10	\$280	\$1,326	\$567
8' Chain link fence (w/ black vinyl)	990	\$25.00 /lf	\$24,750	25	14	\$990	\$4,687	\$1,433
6' high chain link fence (no coating)	120	\$20.00 /lf	\$2,400	25	10	\$96	\$455	\$195
4' high chain link fence (w/ black vinyl)	320	\$15.00 /lf	\$4,800	25	20	\$192	\$909	\$195
Mailbox cluster (refurbish only)	1	\$2,500.00 /ea.	\$2,500	5	5	\$500	\$473	\$405
Drainage/Erosion (see Page 10 of Report)	1	\$10,000.00 /ls	\$10,000	5	5	\$2,000	\$1,894	\$1,621
Subtotal			\$110,650			\$6,208	\$20,954	\$7,730
TOTAL			\$340,594			\$28,171	\$64,500	\$28,754
Contingency (10%)								\$2,875
GRAND TOTAL								\$31,630

Existing Reserve Acct Balance = **\$64,500**

NOTES:

- Items shown with a percent figure are replaced in ongoing cycles. The amount listed under "Quantity" is that percentage of the total site quantity measured which is estimated to require replacement within the cycle interval. The cycle interval is stated as the "Estimated Useful Life".
- Please refer to the reserve report update for additional information on this schedule.
- Reported reserve balance has been reduced, for the purposes of this study, by \$30,000 to account for expenses anticipated for the replacement of the Dominion Way timber wall (refer to Report pages 6 & 7)

LEGEND

ea = each
 lf = linear foot vlf = vertical linear foot
 sy = square yard set = set
 sf = square feet ls = lump sum