



January 8, 2023

Water's Edge Unit Owners:

Please find the attached Roof Evaluation Report and phasing plan completed by Reliable Engineering that will be used to bid out our roof replacement project. Water's Edge's 2018 Replacement Reserve Study budgeted for the replacement of all roofs in our community in four phases from 2023 through 2026. To reduce the costs associated with construction setup and increase the economies of scale for each phase the Board has decided to complete the project in three phases over four years. The process for receiving bids to complete phase 1 in 2023 has been initiated and the community will receive updates as a bid is accepted and timeline formed. The years that phases 2 and 3 will be completed will be determined after our 2023 Replacement Reserve Study is completed later this year. All phases will be completed by 2026 and the reserve study will be used to determine if a year break between any phases is required to keep our reserves at the recommended level.

We recognize that all owners would like to have their roofs replaced as soon as possible and have developed the phased replacement plan based on the recommendation of our engineering firm and to follow our replacement reserve plan. During the roof replacement project, we will continue to make any required repairs as needed to our roofs while all the roofs are replaced through 2026. Additionally, the report identified several urgent repairs that have already been completed.

Please join us at our next Board meeting on Thursday, January 26th, 2023, if you would like to ask any questions or make any comments during the open forum.

Regards,

Water's Edge Board of Directors

RELIABLE ENGINEERING

December 6, 2022

Water's Edge Condominium
c/o KPA Management, Inc.
6402 Arlington Boulevard
Suite 700
Falls Church, VA 22042

Project # J22-1104

Re: Revised Roof Evaluation Report
Water's Edge Condominium
Falls Church, VA 22041

Dear Ms. Kelly Lang:

Reliable Engineering, LLC was retained to perform a property-wide evaluation of the roof coverings at the above referenced property as the first step to development of the roof replacement design. Our services were performed, and this report is submitted in accordance with our authorized written proposal (proposal number P22-1027), dated September 2, 2022.

This report includes applicable project background information, a list of our scope of services and limitations, a summary of our observations and general recommendations along with opinions of probable costs as well as our suggested phasing/prioritization plan. The report also includes photographs depicting certain conditions observed during our evaluation.

Property Description

The Water's Edge Condominium ("Association") is comprised of twenty (20) two-story residential buildings and a pool house structure situated around a lake. The property was constructed in 1984 and contains approximately 119 condominium units.

The roof coverings consist of asphalt impregnated shingles (varying pitches) that divert surface water runoff to a series of gutters and downspout assemblies. There are also smaller roof areas over the ground level utility closets and building bump outs. Over the large building entrances, there are low-sloped roof areas that house the HVAC outdoor units (condensers). The larger buildings also feature three-pane and four-pane skylights that are owned by the Unit Owners.

Project Background

Based on our September 1st phone conversation with the Property Manager (Ms. Kelly Lang), we understand that the Board of Directors would like to implement a roof replacement project phased over a four year period. To accomplish this objective, the Board of Directors retained our services to assist the Association in preparing a phasing plan that will meet their funding capabilities. In addition, they retained our office to develop a comprehensive roof replacement design, manage the competitive bidding process, and perform quality control inspections of the work in progress.

The purpose of the evaluation was to provide an objective, professional opinion of the general conditions of the roof coverings and provide our recommendations that should be included in the roof replacement design. All findings from this assessment are summarized within this report for the purpose of planning and budgeting for the upcoming roof replacement project.

Scope and Limitations

Reliable Engineering's technical approach utilized qualified personnel experienced with the evaluation of low-sloped and steep-sloped roof coverings. Our services were limited to a visual survey of the physically and visually accessible roof components. To accomplish the project objectives, our scope of work included the following:

- Reviewed maintenance records, past repair project document(s), etc. that were provided to us by the Client.
- Obtained aerial imagery (Eagleview Reports) of the roofs prior to our field work. The roof plans were used as a guide for us to verify roof dimensions and develop the roof plans.
- Retained the services of a Sub-Contractor to provide up-close access to the roofs using extension ladders.
- Accessed ALL 20 roofs (including the pool house roof) and performed a visual survey of the roof coverings to document current condition of asphalt shingles, associated flashings, and gutters/downspouts.
- Accessed two (2) attics to document condition of the underside of the roof sheathing and ventilation provisions.

It was not the intent of this survey to perform an exhaustive study to locate every existing defect on the roofs. A team of trained professionals made "walk-through" observations but there may be defects at the property that were not readily accessible, not visible or that were inadvertently overlooked. Other problems may develop over time that was not evident at the time of this survey.

Observations and Comments

Representatives from Reliable Engineering, LLC visited the property on November 7, 2022, to perform the property-wide roof evaluation. During our assessment, deficiencies were identified through visual examination. No destructive investigation, structural instrumentation, monitoring, or analysis were performed. The following highlights the items we found and are intended to be summary in nature.

1. The shingles were brittle, and the fiberglass reinforcement was exposed throughout the community.



2. The shingles were worn with severe aggregate loss.



3. There were widespread exposed (unsealed) nails in the field of the roof as well as along the metal ridge vent. This condition leaves roof susceptible to water intrusion.



4. There were a few apparent large holes in the shingles that are water entry points. We notified the Property Manager of these locations to be repaired. Refer to the Urgent Repairs section of this report for more information.



5. There was a build-up of "blue-green algae" on the shingles. This is typical for the age of the building.



6. In general, the existing metal ridge vents were damaged (crushed) due to foot traffic and there were multiple unsealed fasteners.



7. The FRT plywood was in relatively fair condition with some isolated weak ("soft") spots most likely due to water damage or lack of metal panel sheathing clips. Photograph from within the attic of 3317 Lakeside View depicting isolated area of plywood deterioration from a past water leak.



8. There was no air/vapor barrier behind the vinyl siding, just the gypsum wall sheathing. This condition leaves the exterior wall susceptible to water intrusion during wind driven rain (i.e. water can migrate between the vinyl siding seams and into the building from holes/joints in the gypsum panels).



9. Damaged gypsum sheathing noted during one of our interior attic inspections.



10. Typical view of a raised side wall clad with vinyl siding and wood trim wrapped with metal flashing.



11. Vinyl siding was missing in a few areas presumably due to wind blow-off from the fasteners not secured into the wood framing (i.e. nails were secured to only the gypsum sheathing).



12. There were multiple openings in the raised side walls that could allow water to bypass the roofing system.



13. Many of the skylights were in poor condition with failed gaskets and “cloudy” glass.



14. There were several chimneys throughout the community that were loose/unstable. The chimneys are presumably wood-framed and clad with vinyl siding and wood trim.



15. The chimney caps were in poor condition with mild (surface) rust and low points that hold (collect) water.



16. The wood trim was deteriorated (rotted) in numerous areas.



17. On the larger buildings, there is a low-sloped roof area (above the building entrance) that houses heat pumps. The original roof covering is a metal roof, which have been overlaid with a single-ply membrane (i.e. both EPDM and TPO were noted) at multiple areas.



Recommendations

Based on the observed conditions and our experience with similar projects, we recommend that the following actions be taken. Some of the recommendations include immediate repairs as well as some follow-up evaluation work. Both tasks are considered high priority and should be completed prior to developing the roof replacement design.

Urgent Repairs

1. For Bldg. (3300-3310 Lakeside View), the opening in the side wall at the gutter line needs to have a metal divert flashing installed.
2. For Bldg. 2 (3301-3315 Lakeside View), seal the fasteners/abandoned holes or replace the shingles that were damaged from the tarp installation above Unit 3311.
3. For Bldg. 5 (3346-3360 Lakeside View), install vinyl siding where missing and new metal divert flashing at the gutter line.
4. For Bldg. 6 (3317-3331 Lakeside View), install siding where missing at base of the chimney (roof line).
5. For Bldg. 16 (3417-3423 Lakeside View), install new shingles where missing adjacent to the metal ridge vent.
6. For Bldg. 17 (3409-3415 Lakeside View), install siding where missing along the side wall.
7. For Bldg. 19 (3375-3381 Lakeside View), install new shingles where missing at roof ridge.

Follow-up Evaluation

1. Further evaluate the loose (unstable) chimneys to assess the condition of the wood framing and attachment(s) to the building structure. This work will entail partial removal of the vinyl siding, wood trim, and gypsum sheathing to expose the wood framing. We have already contacted a local roofing contractor and requested pricing to assist us with this follow-up exploratory work. Based on our findings, we will include needed chimney framing repairs to the roof replacement design. We are waiting on the proposal from the roofing contractor and will submit to the Property Manager (along with our additional fees) for review and approval prior to proceeding with this work.
2. During our roof evaluation, we noted that the wall sheathing behind the vinyl siding consisted of gypsum material. We collected a sample of the gypsum and would like to send it to an independent testing laboratory to verify there is no hazardous containing materials (i.e. asbestos). If so, then asbestos handling will need to be included in the roof replacement design. We are waiting on a quote from the testing laboratory and will provide to the Property Manager for review and approval prior to proceeding with the material testing.

Recommended Roof Replacement Scope

The Following scope of work should be included in the roof replacement design. Once the Board of Directors review the scope of work and provides us with direction to proceed with the design, we will prepare the needed specifications, drawings, and bidding documents.

1. Remove and dispose of the existing shingles, felt underlayment, metal flashings, etc. down to the plywood sheathing.
2. Remove and reinstall the existing skylights to perform the roofing work. We recommend including an option for Unit Owners to purchase new skylights as part of the project.
3. Remove and replace the existing fire retardant treated (FRT) plywood sheathing. We suggest including an allowance of 20% of the roof area for this work.
4. Install new architectural asphalt shingles including, but not limited to, new synthetic felt, ice & water shield, 0.032-inch metal flashings, etc. in a manner to obtain a twenty (20) year material & labor warranty from the roofing manufacturer.
5. We recommend that the siding region above the roof line (i.e. side walls and chimneys) be addressed to provide a watertight condition. Otherwise, wind driven rain could migrate behind the siding and bypass the new roof system. The scope of work would include:
 - a. Remove and replace the existing vinyl siding at and above the roof line.
 - b. Perform needed repairs/replacement of the existing gypsum sheathing.
 - c. Install new self-adhering air/vapor barrier over the existing gypsum sheathing and counter-flash the new roof metal apron/step flashing.
6. Remove and replace the color-coated aluminum trim flashing. Work should include replacing deteriorated 1x8 rake board (trim).
7. Remove existing 4" gutters and replace with new 6" gutters. Work should include installation of new 2x8 fascia board (where missing).
8. Remove existing 2"x3" downspouts and replace with new 3"x4" downspouts.
9. Remove existing chimney caps and replace with new stainless steel (soldered) caps.
10. Depending on the follow-up evaluation of the chimneys, perform carpentry repairs and/or re-securement of the chimneys. The work should include replacing the siding and trim.
11. Alternate: Remove and replace the low-sloped roof coverings on the larger buildings. This work would require the existing heat pumps to be temporarily removed & reinstalled.

12. We recommend preventative maintenance of the roofs in Phases II and III be completed due to the project extending over a multi-year period. The work would mainly focus on applying roof cement to exposed fasteners to prevent future water intrusion issues.

Opinions of Current Probable Costs

It should be understood that the cost figures presented in this report represent our opinions of current anticipated probable costs and are only rough approximations intended for use in preliminary planning. Accurate cost figures for the required work cannot be properly developed until needed design work is completed and proposals are obtained from qualified contractors during the bidding process. Reliable Engineering, LLC is not a professional cost estimator; therefore, the costs should not be considered lump-sum or not to exceed prices.

In our opinion, the current probable costs to perform the recommended roof replacement work would be approximately \$1,200,000. Based on our discussions with the Property Manager, we understand that the Board of Directors would like to implement this work over a four-year period (skipping the third year). Therefore, we have provided a suggested phasing plan with a breakdown of the budget cost per building as an attachment to this report. The following items should be understood while reviewing the current probable cost figures.

1. The sequencing of the roof replacement (phasing plan) was based on our visual assessment of the current condition of the roof coverings throughout the property.
2. The number of years outlined in the phasing plan could certainly be reduced to a three-year project; however, the Property Manager raised concerns of potential funding issues. We can always specify a three-year phasing plan in the Request for Proposal (RFP), and the Board of Directors can subsequently delay the last phase to 2026 if funding is unavailable.
3. The budget costs include general conditions such as mobilization, insurances, overhead, equipment, roof access, barricading, debris removal, dumpsters, project management, permits, etc.
4. A contingency for replacement of the FRT plywood sheathing and gypsum wall sheathing has been included in the budget cost figures.
5. We included an escalation factor of three percent (3.0%) in Phase II (2024) and six percent (6.0%) in Phase III (2026) for anticipate material and labor increases.
6. The unit prices utilized to prepare the budget are based on performing the work over a four-year period. If the Owner elects to consolidate the work into one (1) continuous phase, then the budget pricing is subject to decrease. This would account for less mobilization costs and avoiding anticipated cost increases due to inflation over multiple years.
7. The cost figures do not include engineering fees related to design development, bid solicitation, contract preparation, and construction administration and observation (CA/CO) services.

Closing Comments

The opinions expressed in this report were formed utilizing the degree of skill and care ordinarily exercised by professional engineers and consultants practicing in the same or similar locality under similar circumstances. The conclusions presented represent our professional judgment based on information obtained during the course of this assignment. We will not be responsible for latent defects that may appear in the future, for building components not examined, or for differing opinions from others.

This report is not intended for any purpose other than to report on conditions observed during our evaluation. The recommendations summarized in this report are not sufficiently detailed or specific enough, nor have any drawings been provided, that could serve as a basis for securing proposals for or executing the recommended work.

We appreciate the opportunity to be of service. If you have any questions, please do not hesitate to contact our office to further discuss.

Very Respectfully,



Robert A. Radcliff, P.E.
President

Attachments: Suggested Roof Replacement Phasing Plan

Water's Edge Condominium
Property-Wide Roof Replacement Project
Four-Year Phasing Plan
November 9, 2022

Sequence	Building Address	Replacement Year	Budget Cost (Per Bldg)	Annual Budget Cost
1	3366-3380 Lakeside View Drive (Bldg 14)	2023	\$83,000	\$424,000
2	3300-3310 Lakeside View Drive (Bldg 1)	2023	\$64,000	
3	3330-3344 Lakeside View Drive (Bldg 4)	2023	\$83,000	
4	3312-3328 Lakeside View Drive (Bldg 3)	2023	\$79,000	
5	3375-3381 Lakeside View Drive (Bldg 19)	2023	\$32,000	
7	3301-3315 Lakeside View Drive (Bldg 2)	2023	\$83,000	
6	3346-3360 Lakeside View Drive (Bldg 5)	2024	\$83,000	
8	3416-3422 Lakeside View Drive (Bldg 11)	2024	\$34,000	
9	3417-3423 Lakeside View Drive (Bldg 16)	2024	\$34,000	
10	3425-3431 Lakeside View Drive (Bldg 15)	2024	\$34,000	
11	3317-3331 Lakeside View Drive (Bldg 6)	2024	\$83,000	
12	3409-3415 Lakeside View Drive (Bldg 17)	2024	\$34,000	
13	3383-3397 Lakeside View Drive (Bldg 20)	2024	\$78,000	
14	3349-3363 Lakeside View Drive (Bldg 8)	2026	\$85,000	\$376,000
15	3365-3373 Lakeside View Drive (Bldg 9)	2026	\$54,000	
16	3333-3347 Lakeside View Drive (Bldg 7)	2026	\$81,000	
17	3408-3414 Lakeside View Drive (Bldg 12)	2026	\$36,000	
18	3401-3407 Lakeside View Drive (Bldg 18)	2026	\$36,000	
19	3424-3430 Lakeside View Drive (Bldg 10)	2026	\$36,000	
20	3400-3406 Lakeside View Drive (Bldg 13)	2026	\$36,000	
21	3312 Lakeside View Drive (Pool House)	2026	\$12,000	
Budget Total			\$1,180,000	

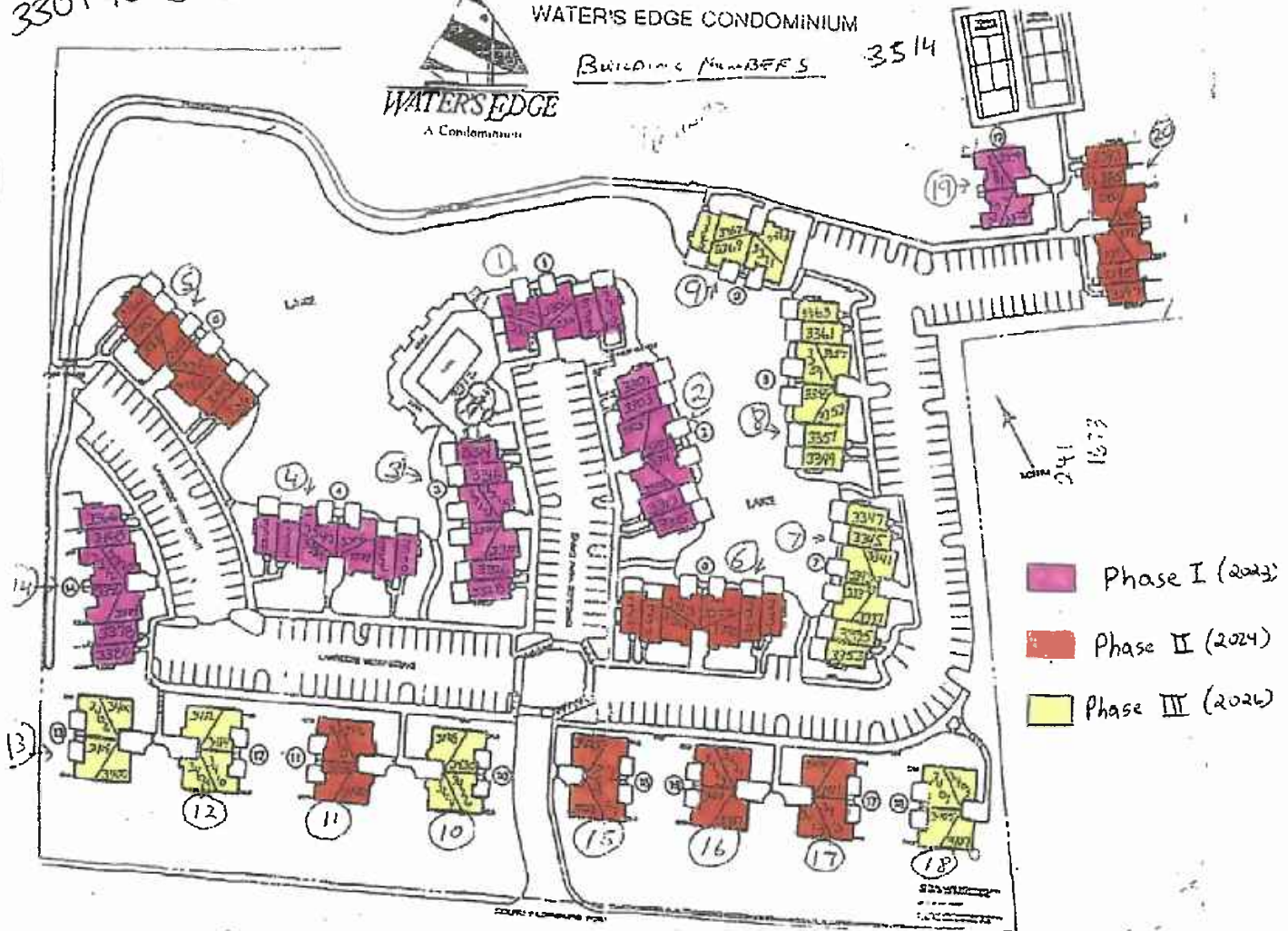
3301 to 3431



WATER'S EDGE CONDOMINIUM

Building Numbers

3514



- Phase I (2023)
- Phase II (2024)
- Phase III (2026)