

# Proposed Timeline for Whole lake Coving Repair. (11/7/2025 presentation)

January 6, 2025 Send out first monthly notice to all registered vessel owners that all vessels will need to be removed from the lake prior to Sept 15. All property owners with floating docks will be sent similar notice.

All property owners with boat lifts will be notified that the lifts will need to be removed prior to October 15, 2025.

Failure to comply will result in a large fine as well as a hefty fee if the Association needs to remove these items.

Begin incubation/ propagation of Vallisneria Americana plants in in large plastic tubs at homeowners willing to volunteer.

August 15, 2025 Begin lowering lake at a rate of  $\frac{3}{4}$ " per day

Sept. 2 Increase lowering lake rate to 1" per day

Sept. 15 All boats off lake.

Begin Inspection and marking of exposed shoreline

Oct. 1 Begin Shoreline coving preparation and upper anchor drilling. At this time the lake should be down 42" and there should be 14 feet of exposed lake bed.

Construct Incubation tubs in East Beach parking lot for industrial scale propagation of the Vallisneria. 4 rows of 8 bins in each row. This will total 32 bins. Each bin is 8'x 8' x18" deep. Each bin will accommodate 1,024 plants. Total plants about 32,768. East Beach parking lot will need to be closed at this time until approx. May 1<sup>st</sup>.

Nov. 3                   Begin surface preparation for smoothing exposed lake bed, paying attention to create smooth transitions between uneven areas of coving.

At this time the lake should be down 72” and there should be 24 feet of exposed lake bed.

Dec. 1                   Lake lowering completed. At this time the lake should be down 102” and there should be 34 feet of exposed and dried lake bed.

Begin footing trenching of 30” deep and 12” width. We will need to have 4 mini excavators ( probably similar to Kubota KX018-4 2-Ton units) working simultaneously to complete the footing trenching in 6 weeks. The project manager MUST be able to coordinate with the contractor to have 4 crews working 7 days a week. There is a built-in 2 week weather delay margin. (There should be a small bonus allotment to the contractor in the budget to get the trenching done in 7 weeks.) The trench excavating will most likely be the rate limiting step in the project.

Begin beach restoration and expansion project.  $\frac{3}{4}$  of the surface prep should be completed. Therefore,  $\frac{1}{3}$  to  $\frac{1}{2}$  of the crews from prep can be repurposed to work on the beach restoration and expansion project. The Beach restoration project involves to placement of Rip-rap first then overlayment of sand harvested from the lake sand bars created in the past from wind and storm erosion. Initial estimation is 400 yds rip-rap placed on the open water side of the swim dam. This would give a 1 to 4 slope. This is 520 tons of material and at \$60 per ton totals \$31,200 for material.

- Jan. 5, 2026      Begin geofabric underlayment and staking Geocell and re-prep of keys and trenches
- Jan. 6, 2026      Begin pumping concrete, expected rate is 6 lots per day per crew. Using 4 crews.
- Feb. 2, 2026      Begin refilling lake at 1 inch per day. ( This will not affect work as there is a 10' span of exposed lake bed below trench footing.)
- Place concrete anchor blocks and stainless retention cables with bouy floats for Wave Attenuators.
- Feb. 13, 2026      Concrete pumping completed
- Mar. 3, 2026      Begin planting 32,000 Vallisneria Americana plants in lake. ( two plants every 2.5 feet, placed 3 feet and 6 feet below trench line. After 4 years, at a doubling rate of 1 year there could be 20 acres of submerged vegetation. This meets the 10% vegetation to surface area recommendation for healthy lake ecosystems. With that, the hatchery water is now beneficial as opposed to detrimental to the lake. )
- Apr .6, 2026      Begin placement of Wake Attenuators.
- May 12, 2026      Lake refill completed. Boats allowed to re-enter lake,

**Lake Infrastructure Project 2025-2026  
Budget Estimate Breakdown**

GeoCell Geogrid system----\$ .90 per sq ft purchased by truckload 750,000 sq ft needed (3 truckloads @250,000 sq ft each)	\$675,000
Geo-Synthetic woven 8oz fabric underlayment -- \$.40 per sq ft 777,600 sq ft needed	\$311,000
Pumper trucks (x4) @ \$1,500 per day = \$6,000 per day \$6,000 per day x 20 days = \$120,000	\$120,000
Concrete-- 3600 to 4000 psi 15 cu yd per lot x 540 lots = 8,100 cu yd 8,100 cu yd x \$150 per cu yd = \$1,215,000	\$1,215,000
Bobcats --(4) @ \$2,200 each per month x 4 = \$8,800 \$8,800 per month x 2 months = \$17,600 + Delivery charges and Fuel costs (estimated)	\$36,000
Mini Excavators(4) -- 40,000 linear ft x \$10 per ft = \$400,000 (?) Koboda Model KX018-4, 2 ton excavator w/ 12" bucket Rental quote--\$2,550 per month x 4 = \$10,200 per month	\$400,000*
Contractor fee -- based on 20% of labor \$172,800 + \$172,800 = \$345,600 x .2 = \$69,120	\$70,000
Project Manager fee-- estimate \$10,000 per month x 4 months = \$40,000	\$40,000
Labor-- Slope Prep (4) three-man crews (estimate) 4-Working Supervisors @ \$70 per hour each 8-Laborers @ \$40 per hr each	\$172,800
Labor-- GeoCell prep (4) three-man crews (estimate) 4-Working Supervisors @ \$70 per hr each = \$280 per hr 8-Laborers @ \$40 per hr each = \$320 per hr	\$172,800
Additional materials: (estimated) Rebar -- 5/8" (#5) @ \$1.50 per (or GeoCell stake) GeoCell Tendon material (or Polyester rope)	\$20,000
Taxes (on materials and equipment rental)	\$200,000
Add ---approx. 15% buffer on estimated costs	\$465,000
<b>PROJECT ESTIMATE</b>	<b>\$3,912,000</b>



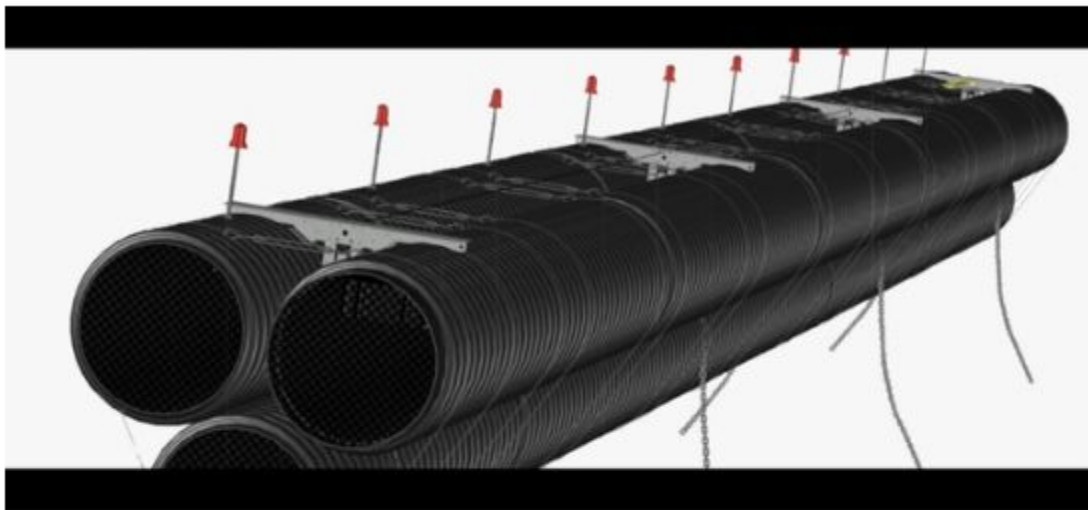
## WAKE ATTENUATOR DESIGN PROPOSAL

This is the design of the attenuators that the Lake Committee wishes to suggest:

\*Made of UHMW plastic pipe, it is very robust and at the same time forgiving if someone drives in to it.

\*Using standard materials with long life.

You can see from the photo that it works very well and would be a huge asset for our beach and marina areas.



**LAKE INFRASTRUCTURE PROJECT  
2025-2026**

**11/7/2024**

*The Lake Committee would like to present the following information on the 2025-2026 Lake Infrastructure Project proposal for the consideration of the SVLA Board of Directors.*

**INFRASTRUCTURE PROJECT OVERVIEW:**

SVLA needs to find a longterm solution to repair our deteriorating 54 year old shoreline. The Lake Committee believes we have a plan that will take SVL's prior coving repair methods to the next level by using a geo-synthetic grid product to add extreme durability, longevity, flexibility and ease of installation to the concrete pouring process.

Our plan is to address all 540 lakefront lots, extending the coving 22ft into the lake as compared to previous coving repairs of 12ft and add a footing/key to address the existing issues identified in the Genterra Report of (1) undermining and (2) slippage of prior concrete pours. We will also incorporate existing coving that is in good condition into this plan for continuity of quality.

\* This will require workers to have access to lake through homeowners sideyards.

\* This project will require the lowering of the lake level by 100 inches or approximately 8.5 ft.

**COVING DESIGN PLAN**

**Our coving repair will require the following materials:**

- 1) Geo-textile woven fabric underlayment (8oz fabric)
- 2) GeoCell geo-synthetic grid system- 3 inch depth grid (or similar product of equal quality)
- 3) Tendon system to provide support to grid during concrete pour
- 4) Install anchoring stakes/rebar
- 5) 3600 to 4000 psi concrete with pea gravel

**Equipment and Labor we will need:**

- 1) 4-Treaded Bobcats
- 2) 4-Excavators with 12" bucket for trenching
- 3) 4-concrete pumpers
- 4) 4-three-man hand crews (or more)
- 5) Hand tools to smooth/prepare slope surfaces, pneumatic staplers to adjoin grid sections

**Coving repair steps for average lot with no remarkable issues:**

- 1) Prepare and smooth slope surface
- 2) Trench footing/key at bottom of slope (6 to 12" wide x 30 to 36" deep x 60 ft width of lot)
- 3) Lay down geo-textile woven fabric underlayment
- 4) Thread tendons through unexpanded GeoCell grid
- 5) Anchor grid at top of slope at sea wall using rebar stakes
- 6) Expand GeoCell grid 22ft down slope
- 7) Staple side by side sections of grid to each other
- 8) Roll grid system into footing/key trench
- 9) Pump concrete to fill entire grid including footing/key
- 10) Screed to level concrete and provide textured finish

### **Integration of existing coving recently poured and in good repair:**

- 1) The GeoCell grid will be added to the bottom of existing coving that is in good condition along with a footing/key since the new design plan extends much further (22ft) into the lake than previous repair work (12ft). This will provide support as well as prevent undermining and will bring the older existing coving up to the standards of the new infrastructure design plan.

### **How will Sea Walls and lots identified as having additional damage be addressed by SVLA:**

The Lake committee would like to make the Board aware that sea walls and footings are anticipated to have conditions of varying states of repair. While most will be found to be sound, those in areas more vulnerable to wakes on the main lake body may require extra attention during the coving repair process.

Our recommendation is to identify any undermining of sea wall foundations and to then backfill foundations with concrete. This will be in addition to any extra surface prep that may be required to ready the slope for the GeoCell grid repair method already previously explained.

The Lake Committee recommends that SVL property owners be responsible for any repair to actual sea wall itself (other than foundation) and arrange repair work with a contractor at their convenience. Property owner would bear all costs associated with any additional work beyond the backfilling which would be included in SVLA's overall project costs.

As the lake is in the process of lowering, we can begin to identify which properties will require additional prep and foundational backfilling. These properties will be noted and given the extra attention they require during the shoreline repair process.

### **LAKE ATTENUATORS**

SVL needs to address the erosion of our beaches and bouncing of boat docks in our marina. It has been observed that the wakes from water sports boating are producing high energy wakes which are potentially contributing to our beach erosion. The way to mitigate our problem is by adding wake "attenuators" to block the incoming waves.

Our lake needs approximately 1000 linear feet of attenuation to protect the marina, our beaches and the condo development's beach area. Three separate 250 ft (750 linear ft total) sections could be effectively staggered at the south end of the lake, providing beach and shoreline protection and yet still allowing boats to access the beach areas. Another section would be placed at the entrance to the marina which would provide protection to the floating docks and boats in the rental slips.

Lake Committee member Bill Scott has researched several types of attenuators and has designed a prototype that we believe would:

- 1) Be an effective and durable longterm solution to our beach erosion issues
- 2) Be something SVL could purchase materials for and fabricate ourselves
- 3) Be capable of being relocated or reconfigured if necessary
- 4) Would be an approximate 40% to 50% savings over purchasing from a distributor and having them delivered and put into place.

**Materials required:**

36" heavy corrugated UHMW plastic pipe--2,000 ft

48" heavy corrugated UHMW plastic pipe--1,000 ft

Stainless steel cable and cinching fasteners to securely wrap around two side-by-side 36" pipe sections (on top) and one 48" pipe section (on bottom).

\*\*Anchoring method to be by chain, elastic cable and concrete vweights.

\*Cost estimate for 1,000 linear ft of attenuators with this design---\$275,000

\*Same type of attenuators if purchased from distributor ---- \$525,000 (approx.)

\*Savings to SVLA by fabricating attenuators --- \$250,000 (approx)

\*It is the Lake Committee's opinion that it would make no sense to attempt to repair our beach area without the addition of the attenuators since the restoration would degrade quickly without them.

**BEACH RESTORATION**

The bobcats rented for the Infrastructure Project will be utilized to restore sand to the beaches. This restoration work will be accomplished by labor crews hired for Infrastructure repair and will take approximately 3 weeks.

