

Memo – Sunset Lake HOA–Shoreline Restoration Project

To: Potential Shoreline Restoration / Dredging Contractor

From: Greg A. Stewart, P.E. (of Alfred Benesch & Company – gstewart@benesch.com) on behalf of
John Sutherland – Chairman, Lake & Dam Committee - Sunset Lake HOA

Subject: Sunset Lake HOA (Benesch Project No. 17000261.02)

Maintenance Project – Shoreline Restoration / Sediment Removal – Request for Proposal (RFP)

Date: Friday, June 26, 2020

Due Date: Friday, July 3, 2020 @ noon (via email to gstewart@benesch.com)

Project Scope:

Sunset Lake HOA (5664 Sunset Lake Road, Holly Springs, NC 27540) is issuing this Request for Proposal (RFP) to dredge sediment (maintenance activity) from the Middle Creek arm of Sunset Lake into a geotextile system (SOX Erosion Solutions) for adjacent shoreline restoration. The exposed sediment removal area is approximately 0.42 +/- acres and is shown on the attached plans. The plans also show the primary access point for the dredge/skiffs. The plans show the proposed locations of the shoreline restoration systems. Sediment should be removed such that a depth of 1.5 ft below normal water surface elevation is achieved within the removal area. Payment will be for LF of shoreline restoration and corresponding anticipated amount (CY) of dredged material. Stumps encountered within the dredging area should be worked around and are not required to be removed.

The HOA is requiring that the sediment be dredged to the shoreline and be placed in a geotextile materials (DredgeSOX) along the shoreline to the greatest extent possible. The system may cross small coves / recessed shorelines as needed to create a “best fit” final configuration. Material will also be placed behind the system (varied depth up to approximately 24”). The materials placed behind the system shall be placed/graded to tie into the adjacent existing ground/grade. The maximum total area of placement on the shoreline area (which does encounter delineated wetlands) is 0.5 acres. The placement of fill material in the wetlands will be classified as temporary impacts per the USACOE Nationwide Permit NWP-13 requirements). For a distance of 1300 LF, 0.5 acres equates to an average width of 15 ft.

The plan shows the length of the shoreline restoration system that can be installed up to 1300 LF. The HOA is also requesting a price for a scope of 1000 LF of shoreline restoration. It is understood that the 1300 LF of shoreline restoration exceeds the 500-foot threshold identified in the NWP-13, the permit allows longer impacts with Local Corps office approval. The local USACOE staff has indicated it is acceptable to the increased limits (and will be confirmed with final approvals). The exact placement of the system and fill is to be determined in the field but in general conformance with the locations on the

plans. The approximate length of each section is shown on the plans; these systems can be filled to a height of up to 18” to 24” depending on the location and system recommendations. Various widths (and depths) of the DredgeSOX system can be used (the scope anticipates a final in place width of 6 ft). All materials are to be staked and tied during installation and for the final condition. In areas of existing drainage features, as identified on the plans, the system can be terminated (or depressed by 6” relative to adjacent systems) to allow the drainage to flow freely to and from the lake. It is expected that a corresponding SOXFence system will be used in conjunction with the DredgeSOX system to establish the proposed shoreline. A corresponding SOXFence system shall be placed parallel to the boardwalk (at the rear of the sediment placement area).

The DredgeSOX system will remain in place and become part of the shoreline. The system is to be installed per the manufacturers recommendations (and only approved installers will be allowed to install the system). The primary contact for the DredgeSOX system that is familiar with this project is Casey Cittadino, National Sales Director, SOX Erosion Solutions, casey@soxerosion.com, Office (561) 501 - 0057; Mobile (631) 478-8567.

Potential material and equipment staging locations are highlighted on the plans. Alternate locations may be considered - but must be approved by HOA before utilizing. The HOA anticipates that equipment and supply staging will occur in the existing Village Parking lot.

Equipment launching (dredge/skiff) will occur adjacent to the Lodge side lawn area. The HOA will have its landscape contractor repair minor damage to lawn/grass areas. Excessive damage will be the responsibility of the dredging contractor.

If required, access for a rubber tired mini-excavator can be provided to allow access to the shoreline and assist with construction efforts. The HOA will coordinate to have a local contractor remove a section of the existing boardwalk. Access will be provided through a driveway, side/back yard of a resident or adjacent HOA property. This will allow access of the mini-excavator to the boardwalk and shoreline near the dredge area (minimal number of passes through the yard will be allowed). Any excessive damage or repairs will be required by the contractor to re-establish the existing condition. Final coordination with any property owner and dredge contractor will be required to ensure exact impacts and property lines are defined. The HOA will be responsible for removing and re-installing the section of the boardwalk (it is anticipated overall efforts will be about three (3) to four (4) weeks).

Staging areas may also be developed in/around the Moonflower Ct (access to Lake only through residential parcels) or Turtlehead Ct (Lake access from Cul-de-sac near Town of Holly Springs Pump station and follows existing board walk). If the contractors feels it is beneficial / feasible to have staging in the Cul-de-Sacs, further discussion/evaluation would be need and final approvals obtained from the HOA and Town of Holly Springs (for the Town roads and Sewage Pump Station easement).

The placement of dredged sediment materials for bank stabilization / restoration efforts will be allowed within the parameters of a Nationwide Permit: NWP-13. This sediment removal effort is a maintenance activity to re-establish the pre-existing flow channel.

It is understood that different dredges require a minimum depth of water to operate (as low as 6 inches of water to operate). Access to the area to be sediment bar can also be dredged in order allow access to

the identified sediment bar.

The limits of material removal (and corresponding quantity) will be established at the pre-construction meeting. The desired quantity of sediment removal is over 2,000 CY of in place material, however it is understood that only so much material can be dredged/placed and still be in compliance with NWP-13 guidelines. Suggested methodology and or adjustments to the scope will be considered, but the work should adhere with the general approach outlined in this RFQ. The primary objective is to remove the sediment bar as a maintenance activity and utilize the sediment for shore line restoration. It is understood that there is more material in the general area that could be removed, future dredging projects / efforts are expected by the HOA.

The Town, County and USACOE have been notified of this pending project, upon selection of the contractor, a notification of the start date and anticipated duration will be provided to all once the contractor has confirmed scope, price and schedule. The project plans have been submitted to the USACOE and Town of Holly Springs (Floodplain management).

The HOA has recently removed dead/fallen/leaning trees from the shoreline (no root balls were removed). Additional vegetation removal should be completed by the contractor to accommodate proposed restoration activities (included as a line item in the attached exhibits). Cut materials can be left along the shoreline, no root balls are to be removed.

RFQ Schedule –

RFP provided to Potential Bidders – Friday, June 26, 2020

RFP to be submitted to Greg Stewart, PE @ gstewart@benesch.com by Friday, July 3, 2020 at noon.

Proposal should include both completed Exhibit A (1000 LF) & Exhibit B (1300 LF)

Bids will be presented by Greg Stewart to HOA Board prior to meeting on Monday, July 6, 2020.

The HOA Board will act on received proposals within 90 days on the July 6, 2020 board meeting.

Questions or request for additional information to be directed to Greg Stewart, PE,
gstewart@benesch.com, 919-805-2758 (Cell).

Anticipated Procurement and Project Schedule:

Complete – Larger Tree Removal complete (small tree/vegetation removal as required for project)

Complete – Survey and base plan effort complete

Approval of Plans provided to USACOE (based on hard survey) –

Submitted February 2020 / Revised plan to be submitted upon selection of contractor

Approval of No Rise Submission to Town of Holly Springs

Submitted February 2020 / Revised plan / Construction Permit to submitted

Pre-Construction meeting with dredge contractor (USACOE will be invited per PCN) – date to be confirmed as approaches (expected in February / March). Contractor to participate in meeting.

Up to 4 weeks of total efforts (in Aug/Sept/Oct 2020)

- Mobilization – 1 to 2 days
- Vegetation removal / initial system placement – Initial effort 2 to 3 days, then as needed
- Dredging – 5 to 10 days (assume 100 to 400 CY per day)
- Stabilization of System – concurrent to dredging and 2 additional days to secure
- Demobilization / Cleanup – 2 days

Fall 2020 / Spring 2021 – verify stabilization (plantings as required by HOA)

Contractor Scope / Additional Contractor Coordination:

Upon review of the proposals, the contractor may be asked to confirm the access location(s), staging area(s) that will be used if different from the above. A general schedule of efforts (mobilization, start work date and expected duration) is to be provided. The primary point of contact for the contractor is to be provided as part of Exhibit A and Exhibit B.

Contractor shall provide proof of the following for the duration of the project (for the contractor and any sub-contractors, including independent trucks):

1. Verification that staff is fully trained to the OSHA 29 CFR 1910.120 standard for workers and management staff.
2. General Liability insurance up to \$1,000,000.00. Sunset Lake HOA and Benesch shall be named as additional insured.
3. Workmen's Compensation Insurance up to \$250,000.00.

HOA / Contractor Contract:

The HOA reserves the right to revise the scope and/or award a portion of the project. The contractor will be paid for work that is completed and corresponding invoice is submitted for completed work. Payment of invoice will be within 30 days of submitting (and verification of work). Invoices are anticipated after mobilization is complete, at approximately 50% to 90% of removal efforts and then at 100% completion. The last 10% of contract value will be retained until any outstanding issues are addressed.

Additional project assumptions and specifications.

1. Project is located within the Neuse River Basin and areas around the Lake is a Neuse River Basin Riparian Buffer Zone. Any efforts shall comply with existing uses within the buffer. Temporary access point to lake can be created if total temporary impact is less than 2500 SF of buffer disturbance. Any disturbance must be restored to pre-disturbance condition.
2. Work hours shall consist of 7 AM to 6 PM Monday to Friday, additional days/times may be acceptable but will require prior approval from the HOA.
3. The contractor shall provide contact information for Project Manager, Site Superintendent and Emergency contact.
4. At a minimum, weekly site inspections will be performed by Benesch and HOA members. Official correspondence / work directives / change orders will be issued by/through Benesch (once approved by appropriate HOA officers).
5. HOA is responsible for administering contract and processing Applications for Payment (AFP) and invoices.
6. Any Maintenance and Protection of Traffic during setup, operation, processing and/or removal is incidental to the individual items.
7. The use of any additional private property is the responsibility of the contractor. Intended use/scope of the property should be provided to the HOA.
8. Map and plans included with this RFP are generated from Google Earth and Wake County GIS.
9. Plans are based on 2019 topographic survey that show elevation show elevations, drainage features, a project baseline and approximate placement of the Sox system (also referenced as Shoreline System).
10. The Contractor is responsible to meet all the appropriate One Call requirements.
11. The defined items collectively represent all efforts (including labor, material and equipment) to complete this maintenance activity.
12. Any areas (beyond the defined sediment removal / placement areas) that are disturbed due to construction or dredging activities shall be restored to pre-construction condition at the expense of the contractor (last 10% of project fee will be withheld until all areas are restored and inspected).
13. This RFP for services will be considered the basis for the project efforts.
14. Future sediment removal projects at Sunset Lake are anticipated/expected.
15. Contractor shall demonstrate past project experience and understanding of SOX Erosion Solutions as an approved installer.
16. DREDGESOX – double layer of knitted polypropylene mesh system should be used (not SHORESOFX system which is a single layer system)

-

Benesch Project - 17000261.02

Proposed Shoreline Restoration Length (LF) = 1000

Item #	Quantity		Item Title	Unit Price in Words		Unit Price (\$)	Total Amount (\$)
10	1	LS	Mobilization and Demobilization		Dollars		
20	1	LS	Shoreline preparation (vegetation removal)		Dollars		
30	1	LS	Dredging Efforts (up to 1390 CY - see attached quantity justification for reference)		Dollars		
40	1000	LF	Dredge SOX System (varied width as required)		Dollars		
50	1000	LF	SOX Fence System (along waters edge to establish shoreline in conjunction with DredgeSOX)		Dollars		
60	1000	LF	SOX Fence System (parallel to boardwalk - along rear edge of dredged material location)		Dollars		
100	1	LS	Bathymetric Survey (Before and After)				
Bid Total							

Is Contractor Available to Perform work this Fall (Aug / Sept / Oct of 2020) - Yes or No

If no, month of contractor availability to perform this work _____

Contractor Name: _____

Contractor Primary Contact: _____

Contact Email / Phone: _____

Sunset Lake HOA - Sediment Removal / Shoreline Restoration Project
Benesch Project - 17000261.02

Proposed Shoreline Restoration Length (LF) = 1000
 Assumed / Desired CY of in-place sediment to be removed = 1390
 Date 6/24/2020
 Revision Date

Anticipated approximate project cost
 EXHIBIT A - 1000 LF Shoreline Restoration

LF
 CY

Item Number	Item title	Qty	Unit Cost	Total
10	Mobilization (Approx 3 to 8%)	1		\$0.00
20	Site Prep (\$2k to \$8k)	1		\$0.00
30	Dredging (up to amount listed above - CY)	1		\$0.00
40	LF of DredgeSOX	1000		\$0.00
50	LF of SOX Fence (@ water edge)	1000		\$0.00
60	LF of SOX Fence (containment)	1000		\$0.00
100	Bathymetric Survey	1		\$0.00
				\$0.00

Plantings by HOA
 Systems to be used DredgeSOX / FENCEsox
<https://www.soxerosion.com/services/dredgesox/>

Unit Cost = \$0.00 \$/CY (Just Dredging Efforts - expect around \$20/CY)
 Dredge Sox 25 CY per 100 LF 250 CY based on 1000 LF of shoreline restoration
 In Bag consolidated material = 500 CY of sediment bar
 (this assumes 2:1 compaction ratio)

Unit Cost of Complete effort = \$0.00 per LF
 Unit Cost of Complete effort = \$0.00 per CY

How much material is anticipated to be placed behind 1000 LF of DredgeSOX (in addition to the 25 CY / 100 LF in the DredgeSOX):

1000 LF x average width of 12 ft x 1 ft ave depth (0" to 24")
 444.4 CY if 1:1 Ratio
 888.9 CY assuming 2:1 compaction Ratio

Total amount of in-place material to be dredged = 500 + 888.9 = 1388.9 CY
 Say 1390.0 CY

Benesch Project - 17000261.02

Proposed Shoreline Restoration Length (LF) =

1300

Item #	Quantity		Item Title	Unit Price in Words		Unit Price (\$)	Total Amount (\$)
10	1	LS	Mobilization and Demobilization		Dollars		
20	1	LS	Shoreline preparation (vegetation removal)		Dollars		
30	1	LS	Dredging Efforts (up to 1800 CY - see attached quantity justification for reference)		Dollars		
40	1300	LF	Dredge SOX System (varied width as required)		Dollars		
50	1300	LF	SOX Fence System (along waters edge to establish shoreline in conjunction with DredgeSOX)		Dollars		
60	1300	LF	SOX Fence System (parallel to boardwalk - along rear edge of dredged material location)		Dollars		
100	1	LS	Bathymetric Survey (Before and After)				
Bid Total							

Is Contractor Available to Perform work this Fall (Aug / Sept / Oct of 2020) - Yes or No

If no, month of contractor availability to perform this work _____

Contractor Name: _____

Contractor Primary Contact: _____

Contact Email / Phone: _____

Sunset Lake HOA - Sediment Removal / Shoreline Restoration Project
Benesch Project - 17000261.02

Proposed Shoreline Restoration Length (LF) =
 Assumed / Desired CY of in-place sediment to be removed =
 Date
 Revision Date

Anticipated approximate project cost
 EXHIBIT B - 1300 LF Shoreline Restoration

1300
 1800 CY

Item Number	Item title	Qty	Unit Cost	Total
10	Mobilization (Approx 3 to 8%)	1	\$0.00	\$0.00
20	Site Prep (\$2k to \$8k)	1	\$0.00	\$0.00
30	Dredging (up to amount listed above - CY)	1		\$0.00
40	LF of DredgeSOX	1300	\$0.00	\$0.00
50	LF of SOX Fence (@ water edge)	1300	\$0.00	\$0.00
60	LF of SOX Fence (containment)	1300	\$0.00	\$0.00
100	Bathymetric Survey	1	\$0.00	\$0.00

\$0.00

Unit Cost = \$0.00 \$/CY (Just Dredging Efforts - expect around \$20/CY)
 Dredge Sox 25 CY per 100 LF 325 CY based on 1300 LF of shoreline restoration
 In Bag consolidated material = 650 CY of sediment bar
 (this assumes 2:1 compaction ratio)

Unit Cost of Complete effort = \$0.00 per LF
 Unit Cost of Complete effort = \$0.00 per CY

Plantings by HOA
 Systems to be used DredgeSOX / FENCEsox
<https://www.soxerosion.com/services/dredgesox/>

How much material is anticipated to be placed behind 1000 LF of DredgeSOX (in addition to the 25 CY / 100 LF in the DredgeSOX):

1300 LF x average width of 12 ft x 1 ft ave depth (0" to 24")
 577.8 CY if 1:1 Ratio
 1155.6 CY assuming 2:1 compaction Ratio

Total amount of in-place material to be dredged = 650 + 1155.6 = 1805.6 CY
 Say 1810.0 CY

Shoreline Stabilization System					
Segement	Start Station	Stop Station	Boardwalk Station Length (ft)	Measured System Length (ft)	
1	1000+00	1002+70	270	375	Start location to be adjusted for 1000 LF Exhibit B Scope
2	1003+15	1004+50	135	200	
3	1005+25	1008+30	305	380	
4	1009+00	1011+00	200	145	
5	1011+00	1012+75	175	200	To be eliminated for 1000 LF Exhibit B Scope
		Total	1085	1300	

SHORESOFX® EROSION CONTROL

ShoreSOX Erosion Control immediately halts soil erosion and re-stabilizes shorelines and hillsides using an open ended containment system that is filled with a locally sourced organic media. ShoreSOX is designed with a knitted polyethelyne mesh that is lined with burlap, allowing it to retain moisture creating a fully vegetated living shoreline.

HOW DOES IT WORK?

Single Layer system no to be used.

We place the SOX open containment fabric in a strategic location along the eroded shoreline of your lake, pond, beach, canal or hillside; We blow-in a combination of organic material to fill the containment system; We roll the containment system to enclose the entire shoreline and protect it from further erosion. We then use our patented SOX anchoring system to secure the fully integrated containment barrier. Finally, the SOX shoreline or hillside is planted with sod or native vegetation to restore and create your new living shoreline.



DREDGESOX® EROSION CONTROL

DredgeSOX Erosion Control is a double layer of knitted polypropylene mesh that is filled by dredging shallow sediment into the containment unit. Upon installation, SOX creates a new fully integrated solid living shoreline. DredgeSOX is the preferred method when a water body is part of the project.

Dredgesox uses environmentally-focused methodology that gets high marks from engineers and environmentalists alike and is a cost-efficient and long-lasting solution to shoreline erosion.

Unlike other shoreline containment options, DredgeSOX Erosion Control is relatively quicker to install and has little to no impact on surrounding property.

SOXFENCE SILT & SEDIMENT CONTROL

SOXFence is the next generation of protective project fencing that reduces water encroachment, retains sediments, and serves as a containment barrier. Installers need fewer stakes and can be flexible with the fence path. Plus, no more trenching.



SOX Erosion Solutions™ has mastered erosion control and restoration of living shorelines and hillsides, with its suite of patented, bioengineered erosion control solutions that are stable, long-lasting and compliant with all BMP's (Best Management Practices) of Living Shoreline erosion control systems.



WWW.SOXEROSION.COM

FINISHED SURFACE TO BE GRADED SMOOTH PER THE ARCHITECT OR ENGINEERS SPECIFICATIONS AND READY FOR SEEDING, SODDING OR PLANTING. PLANT MATERIAL "TBD" BY THE ARCHITECT OR AGRONOMIST. PLANTING SHOULD EXTEND INTO THE WATER & GROW INTO THE SOX FOR A STABLE ROOT ZONE.

BACKFILL SOIL MATERIAL - DEPTH VARIES DEPENDING ON FINISHED SLOPE & CAN BE THE SAME AS SOX BACKFILL MATERIAL.

DIAMOND BRAIDED ANCHORING ROPES. LOWER SOX FLAP CAN BE CONNECTED TO UPPER & LOWER STAKES IN UNEVEN INSTALL SITUATIONS. (TYPICAL SYMBOLS)

6', 12', 18', 24', 36' OR 48' WIDE SHORESOF OR DREDGESOF BACKFILLED WITH SITE OR PROJECT SPECIFIC BACKFILL. WIDTH OF SOX DETERMINED BY SHORE SLOPE AND AMOUNT OF SHORELINE TO BE RECAPTURED/PROTECTED. BACKFILL TO BE NO LESS THAN 80 MICRONS IN SIZE AND IS TYPICALLY ONE OF THE FOLLOWING MATERIALS (sand, topsoil, aeration plugs/cores, dredging spoils or and organic compost type mixture). ALL FILL MATERIALS SHOULD BE TESTED PRIOR TO SOX INSTALL.

NOTE: NON-DREDGED BACKFILL SHOULD BE WASHED OR WATER SETTLED INTO THE SOX FOR STABILITY AND COMPACTION PURPOSES.

STAKES SHALL BE PLACED 3'-0" O.C. AROUND THE ENTIRE PERIMETER OF THE WATER FEATURE. TOP AND BOTTOM STAKES ARE OFFSET BY 18" SO THERE IS A ROPE TIED BACK TO SECURE SUBGRADE EVERY 18". STAKES SHOULD BE INSTALLED LEANING AWAY FROM THE SOX AT AN ANGLE BETWEEN 60 & 80 DEGREES. SOX ATTACHED TO STAKES WITH NYLON DIAMOND BRAIDED ANCHORING ROPE. STAKES AND ROPE TO BE RECESSED BELOW FINISHED GRADE. DEPTH & TYPE OF ANCHOR MAY VARY BASED ON SUBGRADE MATERIAL & ANCHORING METHOD.

SOX WILL CONFORM TO EXISTING ERODED SHORELINE SLOPE

EXISTING OR COMPACTED SUBGRADE (TYP SYM)

EXISTING SURFACE GRADE (TYPICAL SYMBOL)

WATERWAY SURFACE SLOPE PER LOCAL CODE OR LAKE ENGINEER.

NOTE: THIS DRAWING IS A "DIAGRAMMATIC ILLUSTRATION" OF A SOX APPROVED INSTALL METHOD.

DETAIL QUESTIONS - Call: (408)461-0324 or Email: dginkel@soxerosion.com

TYPICAL SHORESOF/DREDGESOF DETAIL

ERODED SHORELINE REPAIR TREATMENT



CORPORATE OFFICE:

950 PENINSULA CORPORATE
CIRCLE, SUITE 3018
BOCA RATON, FL 33487

(561)501.0057
WWW.SOXEROSION.COM

DRAWN BY:
D. GINKEL

APPROVED BY:
RL & BF

SCALE: N.T.S.

PROJECT: _____

DETAIL: _____

DATE: 3/3/2020
REVISIONS: _____



03.30.2019



03.30.2019



03.30.2019



03 30 2019