



Stormwater Operation Specialists
Clayton, NC 27520

July 1, 2024

County of Durham
Utilities Division
59262 NC Hwy 55 E.
Durham, NC 27713

**RE: Sewer Easement Maintenance Services
Beaver Trapping and Dam Clearing**

LOCATION: Durham County, NC

To Whom It May Concern,

This is a quote for the following services:

Stormwater Operations Specialists, LLC (SOS) will trap and remove beavers from the sewer easement line and then will clear the main channel areas of their dams to allow water to recede and for access to the easement. Once the area has been allowed to dry, as much as possible of the remaining dams will be cleared where possible. The debris removed from the dams will be disposed in the wooded areas along the easement where possible and will be trucked out when necessary.

There are 3 main areas of the easements that will be involved in this work. One near Rose Dawn Court near manhole T07-079, one near TW Alexander Drive near manhole T17-034.02, and one on Chin Page Road near manhole T19-010.

Rose Dawn Court – Manhole T07-079 to T07-082

The beavers will be trapped and then will be followed up by a trapping session 3 months after the trapping session. The dam will be incrementally removed at the original channel so that the release of water from the dam does not overwhelm downstream areas. Once the original channel is opened and the area is allowed to dry enough for excavator and skidsteer to access, as much of the remaining dam as possible will be removed. As much of the debris as possible will be scattered in the wooded area near the easement. Any excess debris will be trucked away from the site and disposed of. Once the flooded area is dry enough to be able to be worked, the bare areas caused by the flooding will be seeded and strawed to be able to stabilize the easement.

Pay Item No.	Description	Units	Estimated Quantity	Unit Price	Total Price
1	Initial trapping (4 weeks preferably to start in the fall)	WK	4	\$750.00	\$3,000.00
2	Follow up quarter trapping	WK	1	\$750.00	\$750.00
3	Incremental dam removal to lower the water and return the original flow	LI	1	\$3,000.00	\$3,000.00
4	Removal of the remainder of the dam when the area has dried LABOR	HR	60	\$175.00	\$10,500.00
5	Removal of the remainder of the dam when the area has dried EXCAVATOR	HR	50	\$130.00	\$6,500.00
6	Removal of the remainder of the dam when the area has dried SKIDSTEER	HR	50	\$100.00	\$5,000.00
7	Removal of the remainder of the dam when the area has dried DISPOSAL	LI	12	\$400.00	\$4,800.00
8	Removal of the remainder of the dam when the area has dried SEEDING	LI	1	\$4,000.00	\$4,000.00
	TOTAL PROPOSED COST				\$37,500.00

TOTAL MAINTENANCE.....\$37,500.00

The repair can be limited to only the trapping and clearing of the section of the dam to reestablish the original flow for \$6750.00.

This would leave the wings of the dam from the main channel and would not restabilize the easement.

TW Alexander Drive Manhole T17-034.02 to T17-022 and T17-46 to T18-029

The beaver pond does not have a traditional dam. The flooding is due rising bank dams from beavers and heavy aquatic vegetation at overflow. We recommend installation a culvert overflow extending from the pond to the creek, or, excavating/grading overflow.

The dam at the creek against the TW Alexander bridge is extremely large and holding back 5+ Million gallons of water. Special care must be taken to eliminate potential downstream flooding and damage to the bridge pillars. Heavy equipment to include long arm excavator, by-bass pumps, and multiple dump trucks would be required for this project. We are unable to provide an estimate is this short of time. We estimate this project to be between \$80-100K

With both dams' locations and the proximity and the impact to TW Alexander Drive, it is our recommendation to trap the beavers but to coordinate and encourage NCDOT to assume the responsibility for the removal of the dams.

Beavers will be trapped in the area of both dams and 0.3 miles upstream. This trapping will take approximately eight weeks and follow up trapping 3 months after the initial

Pay Item No.	Description	Units	Estimated Quantity	Unit Price	Total Price
1	Initial trapping (4 weeks preferably to start in the fall)	WK	8	\$850.00	\$6,000.00
2	Follow up quarter trapping	WK	1	\$850.00	\$750.00
3	Meeting with and coordinating with NCDOT	LI	1	\$1,000.00	\$500.00
TOTAL PROPOSED COST					\$7,250.00

TOTAL MAINTENANCE.....\$7,250.00

The easement will need to be evaluated for erosion and stabilization repairs after NCDOT handles the dams.

Chin Page Road Manhole T19-010 to T24-009 to T15-021 (EPA to Toshiba)

Trapping will be conducted in Stirrup Iron Creek extending .5 Miles south of Milton Rd and .35 Miles North of Milton Rd. Trapping will require use of Jon boat for population survey to located active populations and high activity areas. Trapping will be aggressive beginning North of Milton Rd. The initial trapping of this area will take 12 weeks and a quarterly follow up trapping will be done 3 months after the initial trapping is completed.

With the location and the proximity and the impact to Chin Page Road, it is our recommendation to trap the beavers but to coordinate and encourage NCDOT to assume the responsibility for the removal of the dams.

Pay Item No.	Description	Units	Estimated Quantity	Unit Price	Total Price
1	Initial trapping (4 weeks preferably to start in the fall)	WK	12	\$1125.00	\$13,500.00
2	Follow up quarter trapping	WK	1	\$1850.00	\$1,850.00
3	Meeting with and coordinating with NCDOT	LI	1	\$1,000.00	\$500.00
TOTAL PROPOSED COST					\$7,750.00

TOTAL MAINTENANCE.....\$15,850.00

The easement will need to be evaluated for erosion and stabilization repairs after NCDOT handles the dams.

Any deficiencies along the easement will be photographed and noted for referral to Durham County Utilities Division. These deficiencies can include but are not limited to erosion, missing manholes covers, and dumping by adjacent property owners.

This scope of work will be completed begin after mid September. The timing and duration of the trapping sessions and repairs will be determined by weather and beaver activity. This will be coordinated with Durham County Utilities Division.

VALID PERIOD: Quote valid for the FY25 period, 7/1/24-6/30/25

TIME FRAME: FY25 – July 1,2024 to June 30,2025.

Contractor:

Stormwater Operations Specialists

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Anthony Westmoreland Vice-President

Wade W. Shaw

Utilities Superintendent

Durham County Representative

Name and Title

Wade Shaw

8/8/2024

Signature

Date