

MEMORANDUM

To: Mayor and City Council

From: Carl Thomas, Stormwater Utility Manager

Date: September 24, 2018

Subject: **Memorandum - Approval of Budget Amendment to Dunwoody Nature Center Stormwater Project**

ITEM DESCRIPTION

Request from Council to approve budget amendment for micropool extended detention (ED) pond project located at the Dunwoody Nature Center (North Woods Pavilion).

BACKGROUND

On January 8, 2018, City Council approved funding for the construction of a micropool ED pond at the Dunwoody Nature Center. The purpose of this stormwater facility is to provide water quality treatment and reduce flooding impacts to the walking trails and buildings located downstream at the park. The pond is also designed to reduce any water quality/flooding impacts resulting from construction of the Nature Center Pavilion.

Construction of the project began in April of 2018 and is about 90% complete. The original quote for the project was estimated at \$215,417.40, including a 10% contingency. Staff is recommending an amendment to the project for 3 reasons:

- The quote received by the contractor and submitted to Council on 10/26/2017 was incorrect due to a clerical error. **The corrected original quote (with contingency) was \$219,046.30.**
- In-field modifications were made to the pond. After observing the performance of the pond during multiple rain events, it was determined that design modifications were required to ensure the pond retaining wall would not collapse or slide during larger storms. Wall design alterations were completed in June, and added an additional \$19,993.68 to the project cost. **Despite alterations, the pond is within budget at a current cost of \$216,921.68.**
- It was observed during drier conditions that the micropool would dry out within a few days. Slower infiltration increases the pollutant removal capabilities of a micropool. A permanent pool also adds an aesthetic component to the pond as well. Staff decided that adding bentonite, a fine-textured clay with a much slower infiltration rate than standard soils, would be a viable solution. **If approved by Council, the additional cost for bentonite installation is \$6,629.70.**

The cost of the 2 stormwater projects presented to Council this evening total \$48,544.10. Adding this expenditure to the remaining projects budgeted for completion in FY2018 would create a deficit in the Stormwater Repairs & Maintenance account (see attached summary). For emergency repairs, Public Works prefers to keep a balance of \$1,000,000 in the Stormwater Reserve Fund Account. At the end of FY2017, this account had a balance of over \$2.4 million. Staff recommends deducting the cost of these projects from the surplus available in the Stormwater Reserve Fund.

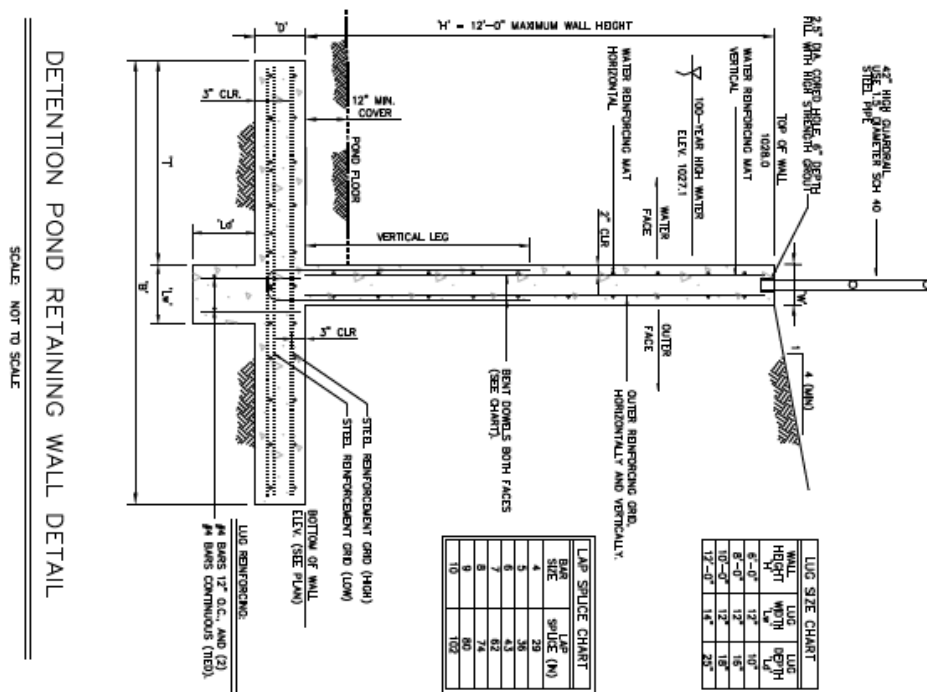
RECOMMENDED ACTION

Staff recommends approving the amended budget for the construction costs of the Dunwoody Nature Center micropool ED pond from the corrected quote of \$219,046.30* to \$223,551.38.** Staff recommends funding remaining \$6,629.70 (with 10% contingency), for bentonite installation in the micropool, out of the Stormwater Reserve Fund.

**Original quote of \$215,417.40 was a clerical error from the contractor.*

***\$216,921.68 has already been invoiced and paid from the Stormwater Fund.*

MODIFIED FOOTING & WALL DETAILS



LOG SIZE CHART		
WALL HEIGHT H	WIDTH L _w	DEPTH L _d
6'-0"	12"	10"
8'-0"	12"	16"
10'-0"	12"	18"
12'-0"	14"	20"

LAP SPICE CHART	
BAR SIZE	LAP SPICE (IN)
4	29
5	36
6	43
7	52
8	74
9	80
10	102

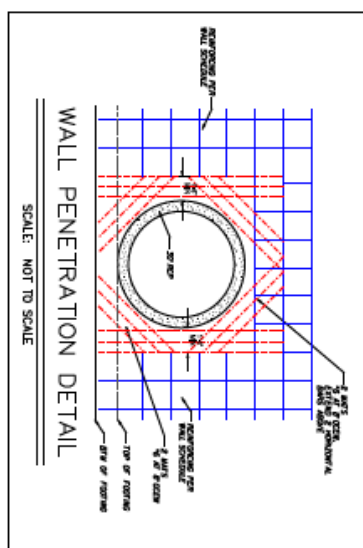
WALL DIMENSIONS AND REINFORCEMENT SCHEDULE					
WALL HEIGHT 1'	WALL THICKNESS "W"	INLET FACE		OUTLET FACE	
		VERTICAL REIN.	HORIZ. REIN.	VERTICAL REIN.	HORIZ. REIN.
5'-0"	12"	#4 @ 18"	#4 @ 12"	#3 @ 12"	#3 @ 12"
8'-0"	12"	#4 @ 18"	#4 @ 12"	#3 @ 10"	#3 @ 12"
10'-0"	12"	#4 @ 12"	#4 @ 12"	#3 @ 12"	#3 @ 12"
12'-0"	14"	#4 @ 12"	#4 @ 12"	#3 @ 9"	#3 @ 12"

FOOTING DIMENSIONS AND REINFORCEMENT SCHEDULE									
BEAM DIMENSIONS				REIN. DIMENSIONS		HIGH AND LOW REIN. GRIDS, E.M.			
WALL HEIGHT "Y"	FTG. WIDTH "Y"	TOT. WIDTH "Y"	FTG. DEPTH "Y"	SIZE AND SPACING	VERTICAL LEGS	HORIZ. LEGS	HIGH MAT	LOW MAT	
8'-0"	3'-0"	1'-0"	1'-0"	#3 @ 12"	3'-0"	1'-0"	#3 @ 12"	#3 @ 12"	
8'-0"	3'-0"	2'-6"	1'-6"	#3 @ 12"	3'-0"	2'-6"	#3 @ 12"	#3 @ 12"	
10'-0"	3'-0"	2'-6"	1'-6"	#3 @ 12"	3'-0"	2'-6"	#3 @ 12"	#3 @ 12"	
12'-0"	3'-0"	4'-0"	1'-6"	#3 @ 8"	3'-0"	3'-5"	#3 @ 8"	#3 @ 8"	

[illegible]

GENERAL NOTES:

1. ALTIMETERING SITE, TO BE SET IN ACCORDANCE WITH CURRENT AISC 318 (2" CLR. TO NEAREST WALL FACE, AND 3" CLR. TO EARTH IN FOOTING).
2. LAP ALL STEELS IN ACCORDANCE WITH AISC 318 (SEE LAP SHEET CHART).
3. COMPACT BAYDILL, TO 65% STANDARD PROCTOR, USE ONLY SMALL HAND-HELD EQUIPMENT NEAR WORK.
4. THIS DRAWING IS SPECIFICALLY FOR THE USE OF THE CONTRACTOR. SEE ONLY AND HENDON FOR THIS SITE ONLY AND NOT VALID FOR ANY OTHER SITE.
5. 16" WIDE x 2 1/2" WALL HEIGHT STRIPS OF #3 STEEL TO BE CONSTRUCTED BEHIND WALL PRIOR TO BACKFILLING. STRAIN GAUGE WILL NOT BE REQUIRED RE: STONE BAYDILL.



OUTLET STRUCTURE & WALL (FINISHED)



MICROPOOL (CURRENT CONDITION)





4800 Ashford Dunwoody Road
Dunwoody, Georgia 30338
dunwoodyga.gov | 678.382.6700

CORRECTED QUOTE

Dunwoody Nature Center Pond Wall and Storm Project

10/26/2017

Item No.	Description	Quantity	Unit	Unit Cost	Total
	MOBILIZATION	1	EA	\$1,400.00	\$1,400.00
	Silt Fence Type C	225	LF	\$3.00	\$675.00
	Tree Save Fence 4'	650	LF	\$2.00	\$1,300.00
	Tree Stump Demo	7	EA	\$750.00	\$5,250.00
	Clearing/Grubbing	1468	SY	\$2.00	\$2,936.00
	Dirt Export	1439	CY	\$21.00	\$30,219.00
	Channel Excavation	1439	CY	\$7.00	\$10,073.00
	Surveying	1	LS	\$8,000.00	\$8,000.00
	FLARED END SECTION	1	EA	\$575.00	\$575.00
	Junction Box	8	VF	\$286.00	\$2,288.00
	Outlet Control Structure	1	EA	\$5,600.00	\$5,600.00
	30" HDPE	122	LF	\$33.00	\$4,026.00
	Invert	2	EA	\$200.00	\$400.00
	6X6 Perforated Drain	63	LF	\$28.00	\$1,764.00
	6" Stand Pipe/Fittings/Cleanout	1	LS	\$787.00	\$787.00
	French Drain	125	LF	\$18.00	\$2,250.00
	Backfill	10	TN	\$38.00	\$380.00
	#57 Bedding Stone	41	TN	\$36.00	\$1,476.00
	Wall and Footing	1	LS	\$55,570.00	\$55,570.00
	Granite Wall Facing and Cap	1	LS	\$47,000.00	\$47,000.00
	OCS Granite Facing	1	LS	\$3,299.00	\$3,299.00
	#57 Wall Backfill	30	TN	\$36.00	\$1,080.00
	Clay Micro Pool	1	LS	\$7,500.00	\$7,500.00
	Rip Rap Berm	22	TN	\$36.00	\$792.00
	River Rock Outlet Protection	49	TN	\$45.00	\$2,205.00
	Import and Place Topsoil	88	CY	\$26.00	\$2,288.00
					\$199,133.00

Item was not
calculated in
original quote

CONTINGENCY 10%

\$19,913.30

Grand Total

\$219,046.30



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Quote for Bentonite Installation

SIDEWALK UNIT PRICE CONTRACT

RFP 15-03

Dunwoody Nature Center Pond Wall and Storm Project

9/10/2018

Item No.	Description	Quantity	Unit	Unit Cost	Total
	MOBILIZATION	1	EA	\$1,400.00	\$1,400.00
	Install Bentonite provided by the city	1	LS	\$2,947.00	\$2,947.00
	Repeat Surveying for Final Grade	1	LS	\$1,100.00	\$1,100.00
	Permanent Grassing	0.4	AC	\$1,450.00	\$580.00
					\$6,027.00

CONTINGENCY 10%

\$602.70

Grand Total

\$6,629.70

YTD Stormwater Repairs & Maintenance Budget	
FY 2018 Balance	\$ 1,726,883.00
YTD Activity (Through 9/12/2018)	\$ 915,808.44
3 approved CIPP projects (8/13/18 Council Meeting)	\$ 307,862.23
4 Outstanding Stormwater projects (Layne)	\$ 142,854.08
7 Outstanding Stormwater projects (IPR)	\$ 220,954.78
General Maintenance Contract (Optech) - 4 months remaining	\$ 124,000.00
Remaining balance	\$15,403.47
Stormwater Reserve Fund	
FY 2018 Balance	\$ 2,444,892.00
2 approved CIPP projects (9/11/18 Council Meeting)	\$ 236,028.38
2 Stormwater projects (pending 9/24/18 Council approval)	\$ 48,544.10
Remaining balance	\$ 2,160,319.52