

# Memo

**To:** City Council  
**From:** Amy E. Gilson, P.E., Director of Public Works  
**Date:** September 21, 2015  
**Re:** Grit Chamber Project



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Under the Consent Agenda you will find a proposal from Moore & Bruggink, Inc. for engineering on the Grit Chamber Renovation project at the wastewater treatment plant. The deteriorating equipment was installed in 1978 and is located at a critical point in the treatment process.

I am requesting approval of the contract with Moore & Bruggink, Inc. to provide design engineering at a not to exceed price of \$44,900.00. Once the technology is chosen, the design is complete, and the project is bid, the engineer will provide a budget for construction engineering. We worked with Moore & Bruggink, Inc. on the recent UV project at the wastewater plant and were pleased with their work.

Because of the condition of the existing grit equipment, we need to start design on this project as soon as possible. The project is included in the water and sewer budget for the current fiscal year.

Please let me know if you have any questions.

# MOORE & BRUGGINK, INC.

Consulting Engineers

2020 Monroe Avenue, N.W.

Grand Rapids, Michigan 49505-6298

September 18, 2015

*Proposal – Grit Chamber*

City of Charlotte  
Ms. Amy Gilson, Director of Public Works  
111 E. Lawrence Avenue  
Charlotte, Michigan 48813

Dear Ms. Gilson:

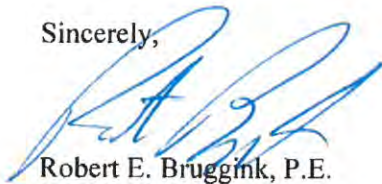
Moore & Bruggink, Inc. is pleased to submit a proposal for the **Charlotte Grit Chamber Renovation Project** to the City of Charlotte. Our proposal is prepared in accordance with our site visit with your staff to determine the project scope on September 9, 2015. Our understanding is that the City would like to replace the existing aerated grit chamber with a vortex style grit chamber with either a paddle arrangement or settling trays. This would also entail a grit removal pump and fluidization system, and renovations to the existing piping and grit washer system. We are assuming no architectural building modifications will be necessary for this project.

A breakdown of design phase tasks is included in the attached manhour worksheet, detailing our scope of work and estimated manhours for the design of the grit chamber renovation. A line item is included for our electrical engineering sub consultant, Century AE. (also used on the UV Disinfection Project) As usual, we will only bill for time and materials expended on the project, and will complete the design phase for a not-to-exceed price of \$44,900.

Once the design is complete and the bids are taken, the construction phase can be negotiated with the City based on the selected contractor's construction timeline. Our understanding is that the City would like M&B to begin design work immediately upon authorization.

We look forward to working with the City of Charlotte and the Wastewater Staff and hope to be your selected consultant. Please call me if you have any questions.

Sincerely,



Robert E. Bruggink, P.E.  
President



Brian Hannon, P.E.  
Project Engineer

REB/kjk

Attachment #1 – Manhour Cost Worksheet

# CHARLOTTE GRIT BUILDING RENOVATION DESIGN ENGINEERING COST ESTIMATE

9/18/2015

## GRIT CHAMBER PROPOSAL

	Project Manager	Project Engineer	Structural Engineer	Survey Crew	CAD Tech	Clerical	Total M&B
kick-off meeting w/ staff	3						3
design sketches	8						8
discuss grit w/ vendors and get initial estimates	3						3
Site visit w/ staff	5	10					15
confirm dimensions of building, channels, piping layout, etc.	2	6					8
trace building layout views		12			24		36
confirm design elements w/ staff	4	4					8
confirm design elements w/ vendors	4	8					12
draw demo sheets	4	8			16		28
draw P&ID's	2	4			8		14
run hydraulic scenarios	2	6					8
draw plan/profile views and note	16	40			24		80
design structural for walkways and concrete	2	4	8		4		18
put specifications together	24	12				24	60
write SCADA process control description	4					1	5
final design review w/ staff	4	4				1	9
part 41 permit	1	2				1	4
engineers estimate	2	4					6
put final bid docs on the table	2	4				8	14
conduct prebid meeting	4	4				1	9
answer RFI's	2	6				1	9
take bids	4	4				1	9
award and budget letters	1					1	2
get contract books processed and signed	2	1				2	5
coordination w/ electrical (throughout)	8	8					16
QA/QC	4	4	4				12
<b>TOTAL HOURS, DESIGN PHASE</b>	<b>117</b>	<b>155</b>	<b>12</b>	<b>0</b>	<b>76</b>	<b>41</b>	<b>401</b>
Estimated M&B Cost Grit Chamber	\$	35,000					
Estimated Century A&E Cost Grit Chamber	\$	9,300					
Expenses (milage and printing)	\$	600					
<b>ESTIMATED TOTAL COST, Grit Chamber Design</b>	<b>\$</b>	<b>44,900</b>					