

## Borough Subdivisions

12-26-2022

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To: Petersburg Borough

This letter is in response to the estimates that were provided by PND Engineers of Juneau. These estimates are for seven separate subdivisions within the Borough including two reduced standards estimates, one for the Fram Street subdivision and one for the Hungry Point subdivision. I have the following questions and input about the subdivisions.

Thank you for your time.

Gary Aulbach

Housing Task Force

**For all of the estimates including the reduced standards estimates the following costs were included. Each item is followed by a question. See responses from Karl Hagerman, Utility Director in red.**

Item 15.01 – Mobilization and Demobilization.

The cost for this on each project seems extremely high especially if the Borough were to hire a local contractor to complete the project.

Would it be possible to ask a local road builder what they think a reasonable mobilization cost would be? **Local mobilization and**

**demobilization bids are usually pretty low, but we can't guarantee that the work will be awarded to a local contractor. Many factors go into a project bid and award which could favor a local contractor or not. Not factoring in a mob/demob fee would be a mistake. Remember, this is a conservative estimate and is meant to cover all costs so that surprises don't occur. It's always better to budget high and award low than the other way around.**

Item 20.02 – SWPPP

**What is the SWPPP? Storm Water Pollution Protection Plan – required to control waterborne pollution from migrating from a construction site to waters of the United States. Requirements and Costs are smaller for smaller areas of disturbance.**

Item 20.12 – Dewatering

**Seems a bit high on all the estimates. Dewatering costs are related to keeping a utility trench as dry as possible during construction so that trench sides stay upright, trench bottoms are not holding water so that proper backfill and compaction can take place. The estimate is very conservative but depending on the weather encountered by the contractor, costs for this pay item could be VERY high.**

Item 55.02(a) - Furnish and install 18" CPEP, Type S pipe

Item 55.o2(b) - Furnish and install 24" CPEP, Type S pipe

Item 55.24 – Storm Drain outlet protection.

Is this pipe included for installing a storm drain system? As far as I know there are no other subdivisions that have a storm drain system. Could we delete this from each estimate? As far as I know each lot owner has had to pay to install a culvert under their driveway at the time of construction.

These pipes could be deleted from the estimates IF they have been added to account for driveway culverts. If they are associated with preserving natural surface water drainage patterns and will be needed to keep water from impacting the roadways and utilities, they should be left in. PND did not design the subdivisions, just put in allowances for certain features that are normally part of a subdivision. Driveway culverts would be the responsibility of the future property owner as Gary mentions.

Item 70.12 – Traffic Maintenance

Not sure what this is for as there is already a cost for signage. Traffic maintenance is generally an allowance for traffic CONTROL devices and flaggers, as needed. It may also cover a contractor's costs for cleaning of haul route roadways after hauling muskeg out and rock in. This is generally less of a concern when building on Borough rights of way, but it is a consideration that costs contractors something when they need to provide safety to the traveling public during the project.

Item 75.04 – Seeding, Hydraulic method.

Is this necessary? Where was this used prior to this on our existing roads? This is a method for stabilizing any soils that are exposed during construction. Erosion and Sediment Control regulations require that any soils be stabilized with seeding, rock cover, jute mats, etc. to prevent rainfall or other drainage water from eroding the backslopes of the ditchline and shoulders of the road. Erosion equals pollution via sediment into our waterways. This was not a requirement when the City built most of our roads in the old days but it is now a consideration that cannot be ignored.

Contract Administration & Construction Inspection.

This is over \$100,000.00 to nearly \$200,000.00 for each project. Is there someone in Public Works that could do this as part of their job or be trained to do it for the Borough? Much like our Building Official does building inspections? Contract Admin and Inspection services are normal to hire out to the designing engineer. They have their PE stamp on the plans and they have a vested interest in seeing the job built as it was designed as well as being able to answer contractor questions that come up. Inspecting can be sourced locally but it takes too much time to expect any current Borough employee to perform a thorough job on this item. We have handled this with part-time inspection and periodic inspection in the past and saw large cost savings.

## Questions about Subdivisions

### Hungry Point Subdivision.

Would it be possible to re-estimate the Hungry point subdivision using the reduced standards and eliminate the Lake Street extension as well as the Valkyrie Street extension? The road would come up Augusta street and it would end at Valkyrie Street and only a service road would be needed from there down to the pump station. **The Borough is looking into this routing as part of the Pump Station 4 project and it has some potential to install some gravity sewer in addition to the force main.**

### Lake Street Subdivision.

If the Borough were to re-survey a couple spots along the Lake Street Subdivision I believe it would be easy to raise the number of lots along that road to 37. That would put the cost per lot at \$124,087.00. This would be slightly lower than the cost per lot for lots in the Airport Subdivision and would therefore be the best “Bang for the buck” subdivision. It would be nice if we could have gotten a reduced standards estimate for the Lake Street subdivision as well as the Airport Subdivision. Perhaps that could be done using a percentage? And possibly adjust some of the costs that were noted on page one? **If the committee would like to look at additional subdivisions with the reduced construction standard, please let the Manager know and we can see about making that happen. PND may have some minimal budget left to look at Lake Street.**

I understand that no matter which way the Borough decides to move it probably will not be able to do either one of these projects without the help of some other entity. I am still very concerned that even after we bring costs down the lots will still be too expensive for the consumers. **See an attached spreadsheet that breaks out airport subdivision costs between the enterprise funds and general fund. General fund costs could be recovered with the sale of the lot. Enterprise (utility) work can be funded through loans and repaid to those funds with rate increases to all customer classes over time (20-30 years). This approach could reduce the immediate debt recovery to a much smaller amount (GF recovery at sale) and spreads the rest of the project out over a long period of time – which minimizes monthly rate increases to customers. All customers would need to be aware of the reason their rates are going up and approve of the debt in a local process that includes passage of an ordinance and a ballot measure.**

Airport Subdivision Expansion - Rough Order of Magnitude Estimate and Potential Cost Allocation to Borough Funds for Construction

Item	Item Description	Units	Quantity	Unit Cost	Amount	Fund/Dept				Cost Allocation									
						Water	Wastewater	Electric	PW (GF)	Water	Wastewater	Electric	PW (GF)						
15.01	Mobilization and Demobilization	LS	All Req'd	\$169,172	\$169,172														
20.02	SWPPP	LS	All Req'd	\$10,000	\$10,000														
20.04	Clearing & Grubbing	LS	All Req'd	\$5,000	\$5,000														
20.10(a)	Usable Excavation	CY	200	\$12	\$2,400														
20.10(b)	Unusable Excavation & Disposal	CY	24,000	\$16	\$384,000														
20.21(a)	Type II Classified Fill & Backfill	CY	20,000	\$30	\$600,000														
20.21(b)	Type II-A Classified Fill & Backfill	CY	1,000	\$42	\$42,000														
20.22	Leveling Course	CY	1,000	\$52	\$52,000														
20.25	Geotextile Fabric	SY	2,000	\$7	\$14,000														
50.02(a)	Furnish & Install 8" PVC C900 Gravity Sewer Pipe	LF	1,850	\$150	\$277,500														
50.02(b)	Furnish & Install 6" PVC Sewer lateral Pipe	LF	625	\$150	\$93,750														
50.03	Construct Sanitary Sewer Manhole, Type A	EA	7	\$9,500	\$66,500														
50.05	Connect to Existing Sewer Manhole	EA	1	\$2,000	\$2,000														
50.10	Sanitary Sewer Service Tee Connection, 8x8x6	EA	25	\$800	\$20,000														
55.02(a)	Furnish & Install 18" CPEP, Type S Pipe	LF	750	\$80	\$60,000														
55.02(b)	Furnish & Install 24" CPEP, Type S Pipe	LF	200	\$100	\$20,000														
55.24	Storm Drain Outlet Protection	EA	1	\$1,000	\$1,000														
60.02	Furnish & Install 8" HDPE Water Pipe	LF	1,700	\$150	\$255,000														
60.03	Furnish & Install 8" Gate Valve & Valve Box	EA	6	\$3,500	\$21,000														
60.04	Furnish & Install Fire Hydrant Assembly (Single Pumper)	EA	3	\$8,000	\$24,000														
60.05	Furnish & Install 6" HDPE Fire Line w/6" Gate Valve	EA	3	\$7,500	\$22,500														
60.06	Water Service Connection, 1", 1.5" or 2" HDPE	EA	25	\$2,000	\$50,000														
60.13	Connect to Existing Water Main	EA	2	\$1,000	\$2,000														
65.02	Construction Surveying	LS	All Req'd	\$20,000	\$20,000														
70.11	Standard Signs	LS	All Req'd	\$2,000	\$2,000														
70.12	Traffic Maintenance	LS	All Req'd	\$2,000	\$2,000														
70.19	Erosion and Sediment Control	LS	All Req'd	\$5,000	\$5,000														
70.22	Insulation Board - 2'x8'x2" Thick	EA	40	\$75	\$3,000														
75.04	Seeding, Hydraulic Method	LS	All Req'd	\$10,000	\$10,000														
80.01	PMPL Overhead Electrical Utility Extension	LS	All Req'd	\$40,000	\$40,000														
<b>Pump Station 8 Upgrades</b>																			
Subtotal Estimated Construction Cost (2022)						\$2,720,898													
Project Contingency (15%)						\$408,135													
<b>Total Construction Cost w/ Contingency (2022)</b>						<b>\$3,129,033</b>													
Predesign Survey & Geotechnical Site Investigation						\$62,581													
Wetlands Delineation & USACE Permitting (Assumes No Mitigation Req'd)						\$49,449													
Final Design & Bid Phase Assistance						\$255,349													
Contract Administration & Construction Inspection						\$219,032													
<b>TOTAL RECOMMENDED PROJECT BUDGET</b>						<b>\$3,715,443</b>													
Recouped through rates or connection fee																			
GF (taxes)																			
25 lots																			

Fund cost per lot	\$43,284.68	\$67,173.67	\$8,421.71	\$29,737.68
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Work Allocation legend: ST=streets, W=water, WW=wastewater, E=electric, All=all funds share cost