

Finance Committee Meeting

January 15, 2014
3:00 p.m.

Committee Members Present: Larry Dill, *Chair*, Clyde Nakaya and Hugh Strom answered present at Roll Call.

Staff Present: Kirk Saiki, Fay Tateishi, Kim Tamaoka, Regina Flores, Mary-jane Garasi, Dustin Moises, Deputy County Attorney Andrea Suzuki

Guest: Mr. Andrew Baker, Leidos Consultant (*via teleconference*)

At 3:00 p.m., Chair Dill called the Finance Committee meeting to order.

AGENDA

Mr. Nakaya moved to accept the agenda as distributed; seconded by Mr. Strom; with no objections motion was carried.

MINUTES

Chair Dill accepted the following Finance Committee Minutes with no objections:

Finance Committee Minutes - October 21, 2013
Finance Committee Minutes - October 22, 2013
Finance Committee Minutes - December 6, 2013
Finance Committee Minutes - December 12, 2013
Finance Committee Minutes - December 19, 2013

OLD BUSINESS

1. Manager's Report 14-16 – Part 4 Fixing Rates for Water Service, Section VII Facilities Reserve Charge (10-15-13), i. Part 4, Section VII (10-15-13)

The following documents were “Received for the Record”:

- 1) Sample Calculation using 160 Unit Multi-Family Housing
- 2) Meter Size Spreadsheet
- 3) Correspondence from Mr. Andrew Baker, Leidos Consultant dated January 15, 2014.

BACKGROUND:

Acting Manager Mr. Saiki referred to the Finance Committee discussion on December 19, 2013 on how to charge multi-family units and resort hotel units. A multi-family unit could be either charged by the meter size or by the number of rooms of multi family units x 5/8” meter price.

Refer to the sample calculation for a 160 multi-family housing unit handout.

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Assume

160 Unit Multi-Family Housing

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Fixture Units/Unit

Bathtub shower	4
Washer	4
Lavatory	1
WC Flush Valve	2.5
Kitchen Sink	1.5
Hose Bibb, 2 ea	3.5

Subtotal	16.5
	17 Use
	2720 Total Fixture Units

400, gpm

4 inch meter by fixture units \$354,000 FRC by Meter Size

\$2,265,600 FRC by Units

\$1,283,840 FRC by Fixture Units

Max Day Flow

160 Unit Multi-Family Housing
525 gpd/room
84,000 gpd
58 gpm
18.88 \$/max day gpd
\$1,585,920 FRC by Max Day Flow

estimated construction cost

1,000 sf/unit
\$300 per sf
160 Units
\$48,000,000

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DEPARTMENT OF WATER - COUNTY OF MAUI
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Meter Size, in	Ratio to 5/8" Meter	Ratio Meter Cost	\$/gal	calc max day flow gpd	calc max day flow gpm	SAIC Max. Cont. Q, gpm	SAIC Fixture Units	SAIC \$/FU	UPC FU	UPC \$/FU
5/8	1	\$14,160	18.88	750	0.52	20	30	\$472	30	\$472
3/4	1.5	\$21,240	18.88	1,125	0.78	30	45	\$472	52	\$408
1	2.5	\$35,400	18.88	1,875	1.30	50	75	\$472	125	\$283
1 1/2	5	\$70,800	18.88	3,750	2.60	100	150	\$472	375	\$189
2	8	\$113,280	18.88	6,000	4.17	160	240	\$472	700	\$162
3	16	\$226,560	18.88	12,000	8.33	320	480	\$472	1950	\$116
4	25	\$354,000	18.88	18,750	13.02	500	750	\$472	3000	\$118
6	50	\$708,000	18.88	37,500	26.04	1,000	1,500	\$472		
8	80	\$1,132,800	18.88	60,000	41.67	1,600	2,400	\$472		

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Saiki, Kirk

From: Baker, Andrew S. <ANDREW.S.BAKER@leidos.com>
Sent: Wednesday, January 15, 2014 11:38 AM
To: Larry Dill
Cc: Saiki, Kirk
Subject: RE: FRC spreadsheet

Gentlemen-

One question, first:

Is the main scenario that you are interested in a residential multi-family building, or a hotel? Do your design standards differentiate between the two? There was also at some point discussion of a housing development on a master meter, if I recall correctly. All three of these are different scenarios – I'm addressing just the residential multi-family one here, but could put together sample calculations to illustrate other scenarios if that would be helpful.

For multi-family residential there are two ways to approach the calculation:

The simplest would be to use a calculation based on the published Domestic Consumption Guidelines in the Water System Standards. The benefit of this is that you have a published standard to point to. One issue with this approach, however, is that it doesn't have a mechanism for addressing conservation from low flow fixtures which are standard in new construction.

Sample Calculation:

160 unit multi-family building
 350 gpd/unit (per WSS consumption guidelines) x 1.5 Max Day factor = 525 gpd/unit
 84,000 gpd
 \$18.83 \$/gpd (unit cost of capacity per FRC calculation)
\$1,581,720 FRC

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Using fixture units as the basis of the calculation is slightly more complex, but has the benefit of addressing the use of low-flow fixtures which reduce the overall capacity demand of the building to the water system. When the design standards were written, it is not inconceivable that a multi-family unit would have as many as 20 fixture units per unit, while a large multi-family building now could average as few as 12. This change is not reflected in the Domestic Consumption Guidelines (last updated in 2002, I believe), but is real nevertheless. Here are two sample calculations with fixture units as the basis, one assuming old construction with no low-flow fixtures (20 FU), the second new construction (14 FU).

Sample Calculation (old construction, no low flow fixtures):

160 unit multi-family building
20 FU/unit average
3200 FU
\$472 \$/FU
\$1,510,400 FRC

Sample Calculation (new construction, small units, low flow fixtures):

160 unit multi-family building
14 FU/unit average
2240 FU
\$472 \$/FU
\$1,057,280 FRC

I believe the fixture unit basis to be more representative of the actual demand for system capacity than simply using the max day from the Domestic Consumption Guidelines. It is not a perfect method of calculation, but for residential construction, including multi-family buildings, it should be more accurate than just following the Domestic Consumption Guidelines in the Water System Standards.

Let me know if you'd like to discuss further in advance.

Also, for the meeting tonight, is there a number you'd like me to call in to or will you call me?

Andy Baker | Leidos

Utility Analyst | Civil Infrastructure
phone: 206.695.4486
mobile: 206.569.8466
andrew.s.baker@leidos.com | leidos.com/engineering

From: Larry Dill [<mailto:ldill@kauai.gov>]
Sent: Wednesday, January 15, 2014 11:21 AM
To: Baker, Andrew S.
Cc: Kirk Saiki
Subject: FW: FRC spreadsheet

*Larry Dill, P.E.
County Engineer
County of Kaua'i
Department of Public Works
4444 Rice Street, Suite 275
Lihu'e, Kaua'i, Hawai'i 96766*

*(808) 241-4996 tel
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From: Saiki, Kirk [<mailto:ksaiki@kauaiwater.org>]
Sent: Monday, January 13, 2014 11:48 AM
To: Larry Dill
Subject: FRC spreadsheet

Larry,

Attached is the excel spreadsheet we discussed this morning. The two tables we are highlighted in yellow and are contained in worksheet "schedule 2" and "multi-family".

Call me if you have questions.

Kirk Saiki
Deputy Manager-Engineer
P.O. Box 1706, Lihue, HI 96766
Phone (808) 245-5405
Fax (808) 246-8628

Column "SAIC Max. Cont. Q. gpm" – 400 gallons of water through a meter, would be a 4" meter = \$354,000 meter cost.

The cost of a 5/8" meter is \$14,160 per unit = \$2.3M meter cost (160 unit multi-family x \$14,160). If charging by fixture units (FU) = 2,720 fixtures x \$472 per FU = \$1.3M.

Acting Manager Mr. Saiki mentioned that the numbers were not close.

Column "SAIC Max. Cont. Q. gpm" is the flow that can get to the meter - If a FU is assigned to the meter, the AWWA meter flow based on the "Ratio Meter Cost column" which corresponds to the UPC flow curve refers to a 5/8" meter.

Column "UPC FU" – is the number of FU if you went with the Max. Continuous Flow Q. gpm to determine FU.

There is a *disconnect* in the number of FU, the unit cost per FU to the flat rate of the meter.

DISCUSSION:

Chair Dill inquired about the max day flow activation.

The Department determined max day flow with the design standards at 350 gallons per gpd, multi-family housing unit or hotel room by multiplying 1.5 for max day of 525 gpd. 160 dwelling units x 525 gpd = 84,000 gpd.

84,000 gpd x \$18.88/gpd = the max day dollars for gallons = \$1.6M

The *Department's recommendation* on the calculation would be to justify the numbers to determine the meter size by FU, then to charge a flat rate per meter.

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Chair Dill noted that the consultant showed the methodology by FU which was different from what *Acting* Manager Mr. Saiki mentioned. The actual FU for the flow is greater than the FU based on what the consultant used to get \$472.

Column “UPC \$/FU” – The meters get larger and increased FU while the unit cost per fixture unit goes down.

Column “SAIC \$/FU” - \$472 is used for all meter sizes. (i.e., for the 4” meter, instead of charging \$118, the charge is \$472.)

Andrew Baker explained his January 15, 2014 email and referenced the Leidos draft report, dated November 2013.

Mr. Baker commented that the intent is to charge a fee that captures the cost of providing the capacity to serve the new building which would be based on calculations.

A simple way to use the calculation would be based on the published Domestic Consumption Guidelines in the Water System Standards. The *benefit* of this calculation is using simple steps of the process.

Refer to Mr. Baker’s Sample Calculation (3rd paragraph) for a 160 unit multi-family building = \$1.5M FRC.

Refer to Sample Calculation (4th paragraph) (old construction, no low flow fixtures)

Refer to Sample Calculation (4th paragraph) (new construction, small units, low flow fixtures)

Mr. Baker mentioned the down side - The Water System Standard was last updated in 2002, the Department has seen conservation through low flow fixture programs, with new construction using low flow fixtures. 350 gpd may not be the amount of demand that a new large multi-family building would actually place per unit on the DOW system. (Example: 15 FU per unit average, by using \$472 per FU = \$1.06M meter charge.)

Mr. Baker commented that by using FU instead the number of units is more representative of the demand.

Acting Manager Mr. Saiki inquired on how would you explain the *disconnect* between the \$18.88 or the \$472 to the actual meter size number? A 4” meter is \$354,000.

The disconnect is from what the FU originally designed which was for the gpm calculated from the FU which is the peak sizing. The gallons per day cannot be multiplied by \$1,440 because the demand of the building that is placed on the source would not draw on the flow rate. This is why the gpm does not match to the gpd.

Acting Manager Mr. Saiki was concerned about the *disconnect* between the 4” meter fee at \$354,000 to the \$1.6M. The fee based on flow equivalent was removed but could come back. How is this justified?

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The justification would be to take an actual building and checking to see how many FU there are and the demand that is placed on the system. This would be compared to what the amount of demand which is based on the calculation. (Example: Check with an actual 100 unit multi-family unit that is within the % that is calculated.)

Chair Dill requested the Department to check multi-family unit resort properties to see how the numbers play out.

Acting Manager Mr. Saiki the Department could do meter size and flow to determine max day demand.

Mr. Baker added that the \$35,400 meter cost was based on an actual consumption data.

Mr. Strom asked if the Department enforces low flow?

Acting Manager Mr. Saiki mentioned there is no control for low flow unless an applicant comes in for a building permit which is part of a Building Code requirement.

Refer to Leidos Report November 2013 - Table 4-7

Acting Manager Mr. Saiki mentioned that in the rules and regulations, it should refer FU in UPC.

Chair Dill requested Leidos to update the schedules for discussion and to provide a written draft rule to implement the methodology. Mr. Baker agreed to prepare draft language to the Department by Monday, January 20th.

Mr. Strom moved to defer Manager's Report 14-16 – Part 4 Fixing Rates for Water Service, Section VII Facilities Reserve Charge (10-15-13), i. Part 4, Section VII (10-15-13) to recess the Finance Committee meeting to Wednesday, January 22, 2014 at 3:00 p.m. for Mr. Baker to provide language to update the schedules for discussion and to provide a written draft rule to implement the methodology; seconded by Mr. Nakaya; with no objections, motion carried unanimously.

NEW BUSINESS

1. Manager's Report No. 14-24 – Review and discussion and possible action on Proposed Amendments to Part 4, Section 1, General Use Rates

Acting Manager Mr. Saiki reported Part 4, Section 1, General Use Rates terminology was change from “Block” to “Tiers” to describe the rate.

Mr. Nakaya moved to adopt Manager's Report No. 14-24 – Review and discussion and possible action on Proposed Amendments to Part 4, Section 1, General Use Rates terminology from “Block” to “Tiers” to the Full Board for approval; seconded by Mr. Strom; with no objections, motion carried unanimously.

Manager's Report No. 14-24 – Review and discussion and possible action on Proposed Amendments to Part 4, Section 1, General Use Rates will be on the Regular Board Meeting agenda for January 23, 2014.

At 3:50 p.m., Chair Dill recessed the Finance Committee Meeting to Wednesday, January 22, 2014 at 3:00 p.m. with no objections.

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