

Nepenthe Association Water Meter Evaluation

January 5, 2019



WOOD RODGERS

Introduction

- **Wood Rodgers is a Sacramento-based Civil Engineering Company**
- **20+ years in business**
- **300 employees**
- **Multi-disciplined**
- **Engineering consulting services to the public and private sector**
- **20-year career in water industry**

Why Am I Here?

- **City of Sacramento under taken water meter installation program**
 - City presented 2 options to Nepenthe
- **Prepared Two Studies**
 - Evaluate two options for meter install
 - Optimize meter size and location
- **Goal: Support Nepenthe to make best decision possible, and save money**

Presentation Overview

- **Existing Conditions of Water System**
- **City Meter Project Implementation**
- **Options for Meter Install**
- **Option Analysis**
- **Cost**
- **Findings & Recommendation**
- **Impacts to You**
- **Additional Analysis**

Existing Conditions

- **Approximately 79 connections to City water mains (POCs)**
 - City determined 3 are abandoned (now 76)
- **Approximately 613 water users**
 - 590 units
 - 3 clubhouses
 - 20 irrigation (estimated)
- **40 acres of irrigated area**
- **Combo of Nepenthe-owned and City-owned facilities**
- **No water meters**
- **Billed a flat monthly rate**

City Meter Project Implementation

- **Comply with State Law**
- **Installing water meters throughout city**
- **Construction to begin as early as May 2019**
- **City presented 2 Options**
 - **Opt. 1 - Add meters at all existing POCs (79 / 76)**
 - **Opt. 2 - Add meters for every individual user (+/- 613)**

Option 1 for Meter Install

- **Add meters at all existing POCs (79 or 76)**
 - **Work performed on City-owned pipes**
 - **Responsibility primarily on City**
 - **Construction is City cost entirely**
 - **Master Meter condition**
 - **Water Useage and Billing allocated**



Option 2 for Meter Install

- **Add meters for each individual connection**
 - **City cost to install meters**
 - **Nepenthe required to:**
 - **Expose existing pipes**
 - **Construct piping improvements**
 - **Convey easements to the City**
 - **More responsibility on Association**
 - **Work performed on Nepenthe-owned pipes**
 - **Shifts risk to Association**
 - **Individual billing (some Association costs)**



Option Analysis

- **Estimate Water Demand**
 - **Similar Project**
 - **Residential Usage = 3,300 gal/month/unit**
 - **Landscape Usage = 37 MG/month**
- **Determine Improvements Required for Each Option**
- **Estimate Cost for Each Option**

Cost Impact

Cost Comparison – Option 1 versus Option 2

Cost Category	Option 1 - Existing Connections		Option 2 - Individual Connections		Cost Savings of Option 1	
	Amount	Frequency	Amount	Frequency	Amount	Frequency
Construction Cost	\$ - 0 -	Capital	\$589,900	Capital	\$589,900	Capital
Water Bill	\$561,600	Annual	\$582,400	Annual	\$20,800	Annual

Findings & Recommendation

- **Recommend Pursuing Option 1**
 - **No capital investment required**
 - **Save \$20,000 annually**
 - **Less risk to Association**
 - **Less construction impact**



Impacts to You?

- **Construction Activities / Inconvenience**
- **Change in Water Bill**
- **Bill May Vary Monthly**
- **12-month Billing Grace Period**



Additional Analysis

- **Optimize and Reduce Meters**
 - City allows the reduction of the number and size of meters if justified
 - Based on flow
 - Reduces cost (monthly connection fee)
 - Assumes Option 1 is preferred
- **Develop Nepenthe Water Map**

Recommendations

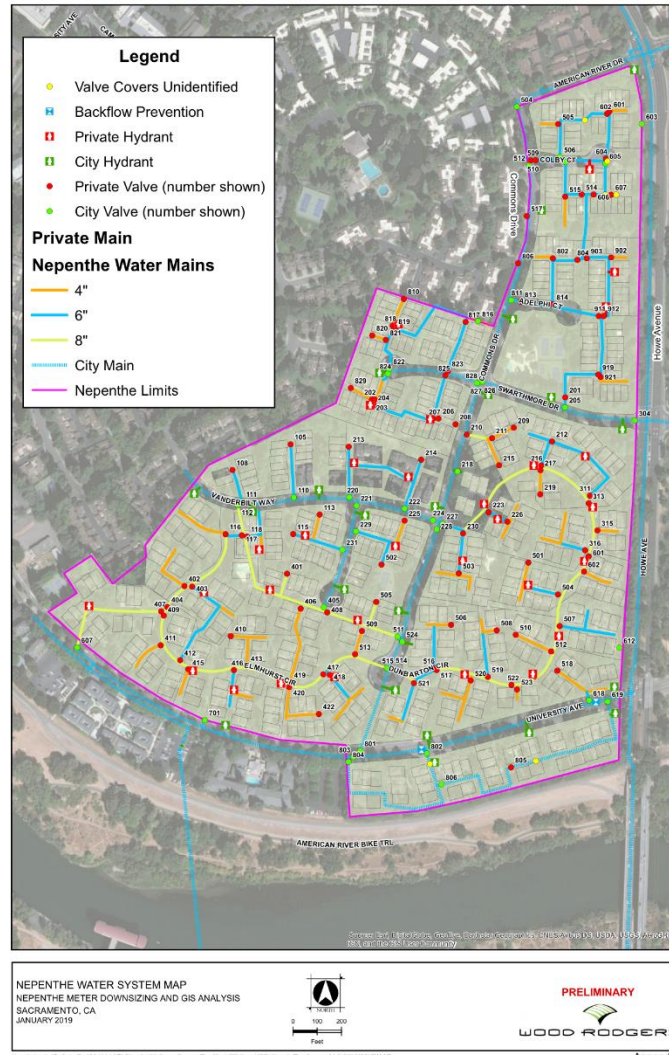
Meter Connection Sizes			
		Amount	
Meter Connection	Price/month	Before Analysis	After Analysis
8 inch	\$1,013.87	7	0
6 inch	\$635.25	15	15
3 inch	\$193.49	0	0
2 inch	\$105.15	0	4
1 1/2 inch	\$67.29	13	1
1 inch	\$35.72	41	53
3/4 inch	\$35.72	0	0
Total Amount		76	73

Cost Savings

Community Cost Savings (Connection Fees)		
Before Analysis	After Analysis	Savings
Monthly	Monthly	Monthly
\$ 18,970	\$ 11,910	\$ 7,060
Yearly	Yearly	Yearly
\$ 227,600	\$ 142,920	\$ 84,720

Nepenthe System Map

- Walked System
- Photo Log
- Document Pipe Sizes and Appurtenances



Thank You!

Questions?

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