



North Beach Water District



Comprehensive Water Rate Study

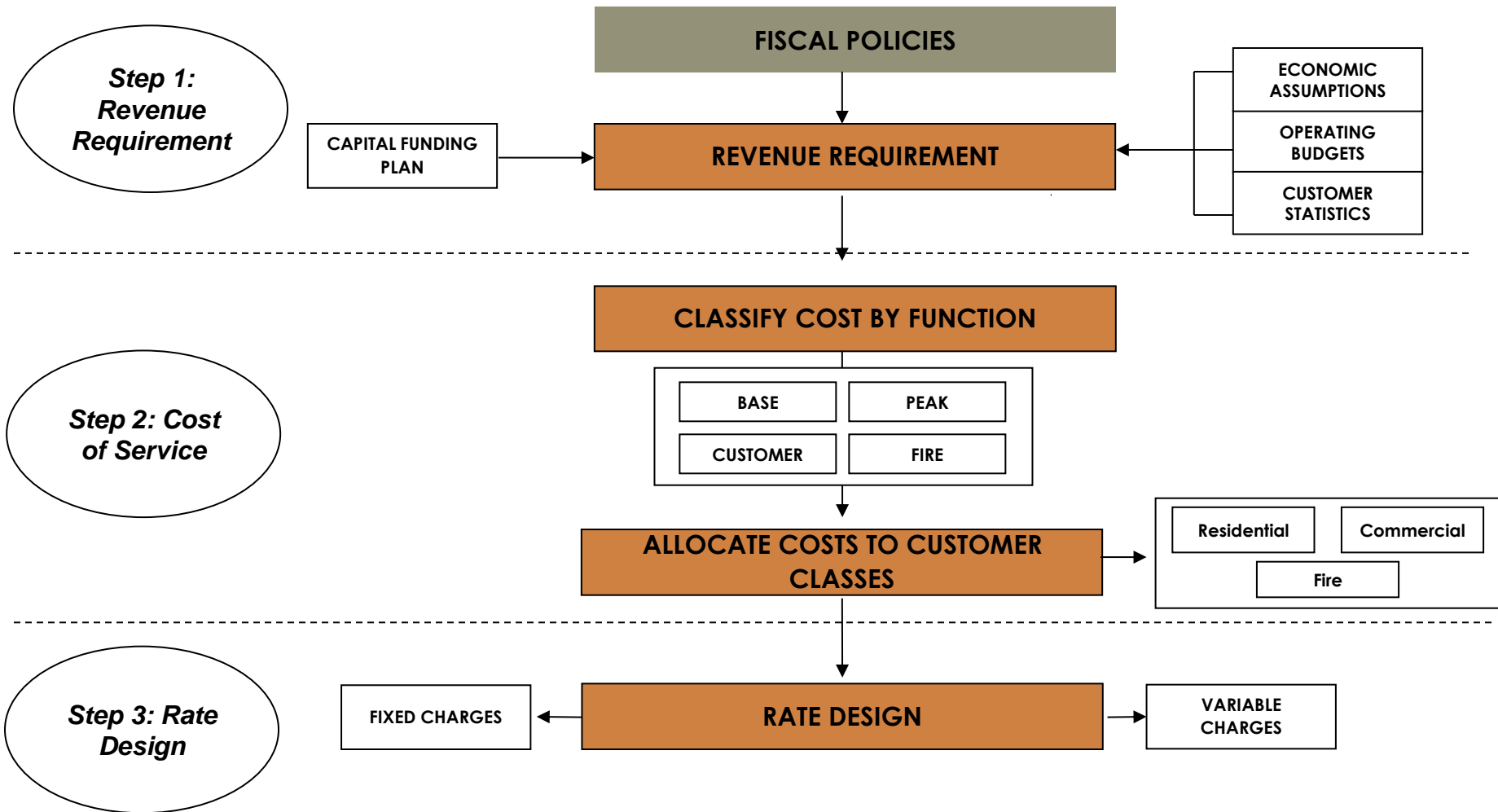
November 24, 2014

Angie Sanchez Virnoche, Principal





3 Step Rate Setting Process





Step 1: Revenue Requirement Overview

- ◆ **Determines the amount of annual revenue necessary to fund all financial obligations**
 - Operating costs
 - Debt service (principal and interest)
 - Capital costs
- ◆ **Meet financial parameters and targets**
 - Target debt service coverage and reserve balances
- ◆ **Evaluates existing revenue sufficiency (now and future)**
- ◆ **Develop multi-year rate strategy to balance financial needs and minimize customer impact**

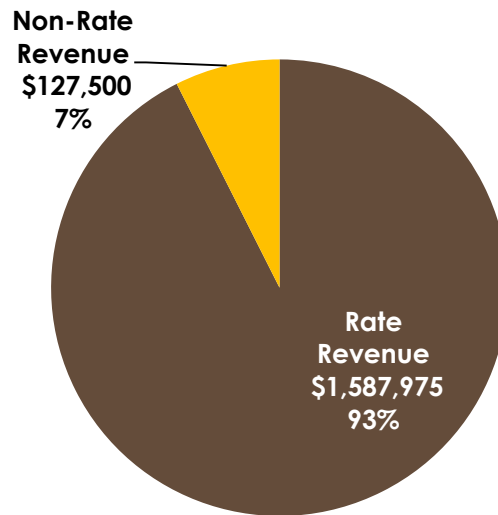


Revenue Requirement Key Factors

- ◆ **Financial plan developed for 20-years (2015 – 2034)**
 - Focus is on 3 - 6 years for rate setting (2015-2020)
- ◆ **The District's 2015 proposed budget is used as the basis**
- ◆ **Annual escalation factors**
 - Growth rate average annual 0.26% from water system plan
 - Most expenses use 10-year average CPI 2.39%
 - Labor expenses use 10-year average ECI 2.86%
 - State Excise Tax 5.029%; B&O Tax 1.50%
- ◆ **Fund balance minimum \$450,000**

2015 Revenue

- ◆ Rate revenue – monthly user fees
- ◆ Other – new customer fees, delinquent fees, customer service charges, good neighbor, miscellaneous

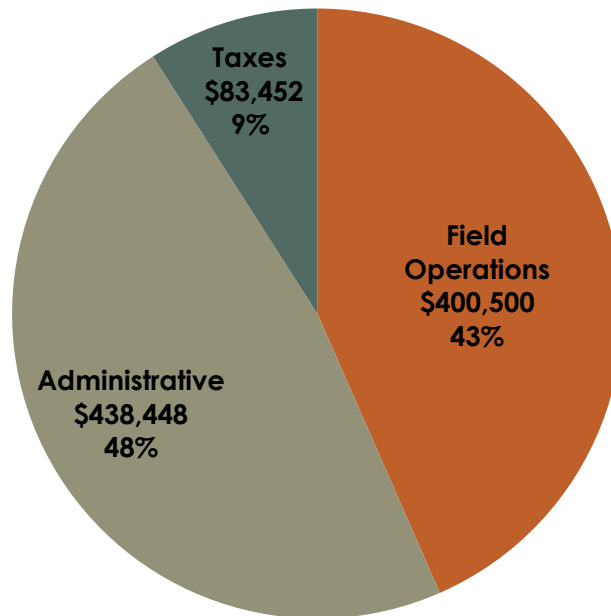


2015 Total Revenue \$1.715 million



2015 Operating Expenses

- ◆ 2015 proposed budget used as baseline

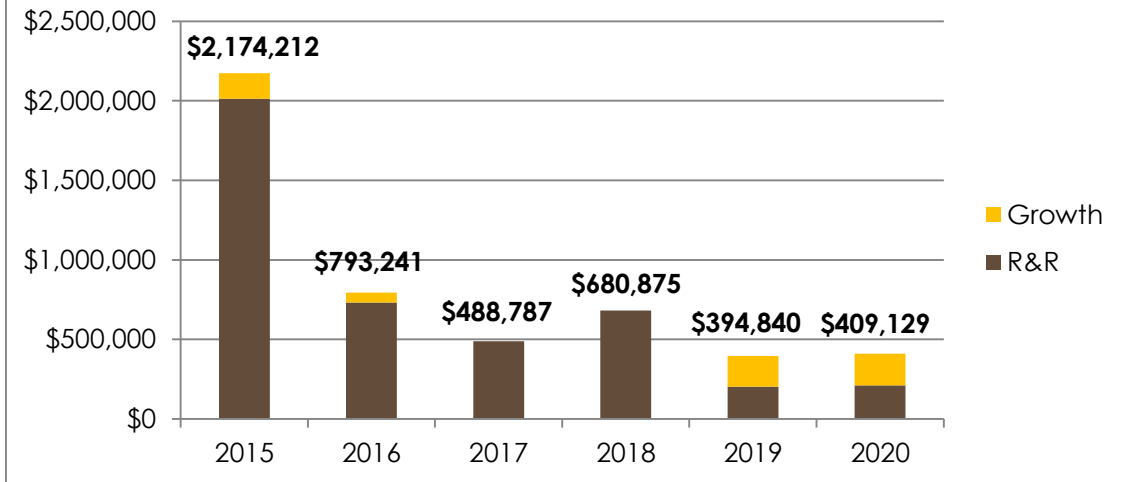


2015 Total operating expenses \$922,400

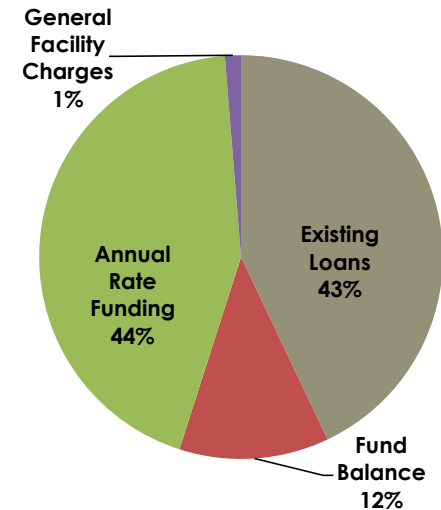


Capital Costs

Annual Capital Costs



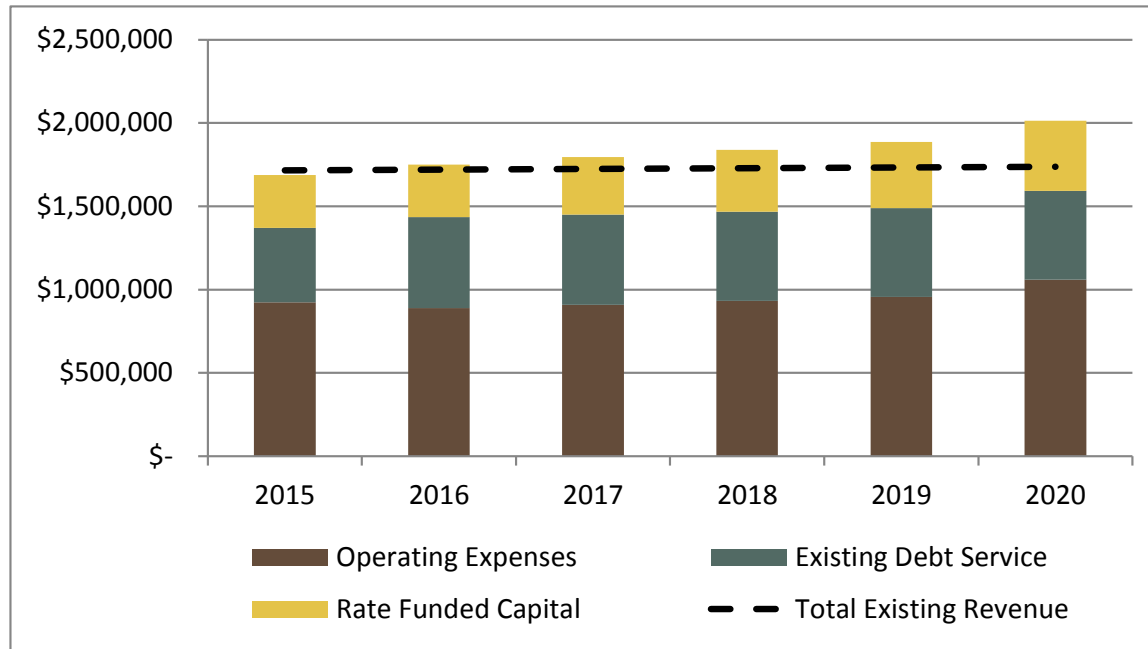
Capital Funding



- ◆ **Capital costs based on current Water System Plan in progress**
 - \$4.9 million 2015 - 2020
 - Costs escalated to year of construction
- ◆ **Existing debt service ~ \$449,000 - \$546,000/year**
- ◆ **No new debt – existing resources and rate revenue are funding capital**



Summary of Revenue Requirement



	2015	2016	2017	2018	2019	2020
Annual Increase	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%



Step 2: Cost of Service

- ◆ **Defines equitable shares of cost responsibility by customer class**
- ◆ **Allocates total utility cost by function**

Water Utility Functions**

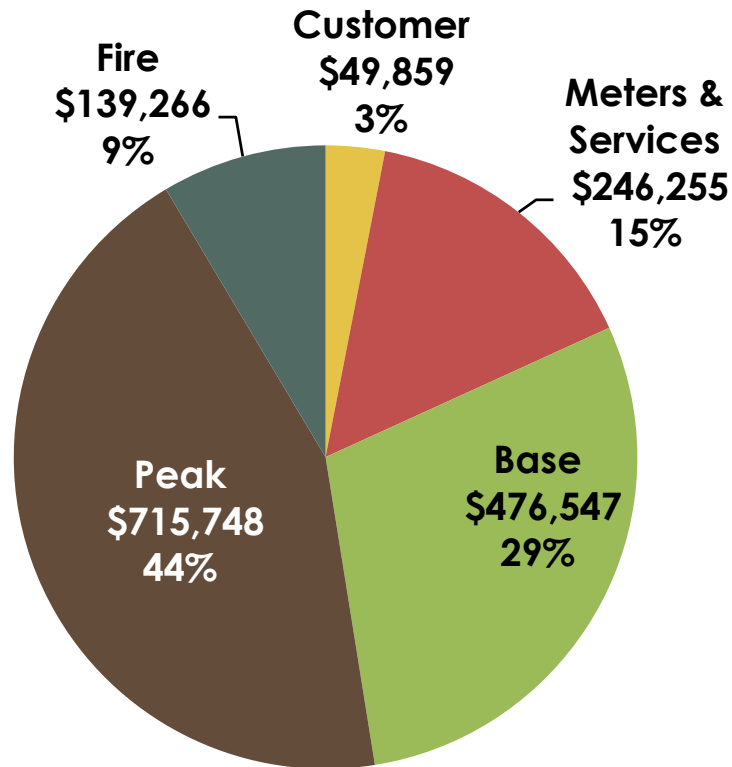
- Customer
- Meters & Services
- Base Demand (average use)
- Peak Demand (peak use)
- Fire Protection

- ◆ **Develops allocation factors using customer facility requirements and usage characteristics**
- ◆ **Allocates costs to customer classes**

** Industry Standard Methodologies; American Water Works Association; Principles of Water Rates, Fees and Charges, M1 Manual



Functional Cost Allocation





Allocation Factors

- ◆ Reviewed the Residential, Commercial and Fire customer classifications separately

Class	Customer	Meters & Services	Base	Peak	Fire
Basis	Accounts	MSEs	Annual ccf	Peak to Average	Weighted Accounts
Residential	96.06%	89.71%	76.65%	77.95%	89.05%
Commercial	3.94%	7.98%	23.35%	22.05%	10.95%
Fire	0.00%	2.31%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Class	Accounts	MSEs	Annual ccf	Peak to Average
Residential	2,597	3,638	87,147	124,750
Commercial	106	324	26,548	35,280
Fire	-	94	-	-
Total	2,703	4,056	113,695	160,030

Notes:

- Weighted accounts for fire means accounts weighted by fire flow requirements (gallons per minute x duration)
- Peak ratio = class peak (August) to average total usage



Cost of Service Results

**Functional cost pools x allocation factors =
cost of service by class**

Class	Existing Revenue	COSA 2015	Difference \$	Difference %
Residential	\$ 1,431,071	\$ 1,316,057	\$ (115,014)	-8.04%
Commercial	152,823	305,935	153,111	100.19%
Fire	4,080	5,683	1,602	39.27%
Total	\$ 1,587,975	\$ 1,627,675	\$ 39,699	2.50%



Step 3: Rate Design

- ◆ **One rate schedule applied to all customers**
- ◆ **Current rate structure**
 - Fixed monthly charge by meter size
 - All water use billed
 - 84% revenue recovery from fixed charge, 16% variable



Rate Options

- ◆ **Maintain one rate schedule for all**
- ◆ **Adjust meter equivalency factors to tie to AWWA industry standard meter factors**
- ◆ **Two rate options reviewed**
 - Across the board (2.5% increase to each rate)
 - Higher Volume - fixed charge to collect 25% of increase, remainder from volume charge



Summary of 2015 Rate Options

	Existing Rate	Option 1	Option 2
Monthly Charge			
Res/Comm			
3/4 Inch	\$ 39.73	\$ 40.46	\$ 40.56
1 Inch	\$ 66.33	\$ 67.55	\$ 49.05
1 1/2 Inch	\$ 132.34	\$ 134.78	\$ 70.08
2 Inch	\$ 202.56	\$ 206.29	\$ 95.42
3 Inch	\$ 230.78	\$ 235.03	\$ 163.07
4 Inch	\$ 348.69	\$ 355.12	\$ 239.08
6 Inch	\$ 677.23	\$ 689.71	\$ 450.14
Fire Flow			
6 Inch	\$ 77.56	\$ 230.73	\$ 230.73
8 Inch	\$ 101.57	\$ 369.18	\$ 369.18
Volume Charge			
All Water Use	\$ 2.19	\$ 2.24	\$ 2.49
Percent Fixed Revenue	84%	84%	83%
Percent Variable Revenue	16%	16%	17%

- ◆ **Option 1 refines fire charges**
- ◆ **Option 2 refines meter charges and fire charges**



Monthly Bill Comparisons

Average Customers	Current Rates	Option 1	Option 2
Residential 3/4"			
Low (2.2 ccf)	\$ 44.55	\$ 45.39	\$ 46.04
<i>Diff from Current</i>		\$ 0.84	\$ 1.49
Medium (3.6 ccf)	\$ 47.61	\$ 48.52	\$ 49.52
<i>Diff from Current</i>		\$ 0.91	\$ 1.91
High (7 ccf)	\$ 55.06	\$ 56.14	\$ 57.99
<i>Diff from Current</i>		\$ 1.08	\$ 2.93
Commercial 3/4"			
Low (3.8 ccf)	\$ 48.05	\$ 48.97	\$ 50.02
<i>Diff from Current</i>		\$ 0.92	\$ 1.97
Medium (6.2 ccf)	\$ 53.31	\$ 54.35	\$ 56.00
<i>Diff from Current</i>		\$ 1.04	\$ 2.69
High (18.2 ccf)	\$ 79.59	\$ 81.23	\$ 85.88
<i>Diff from Current</i>		\$ 1.64	\$ 6.29
Commercial 2"			
Average Large (300 ccf)	\$ 859.56	\$ 878.29	\$ 842.42
<i>Diff from Current</i>		\$ 18.73	\$ (17.14)

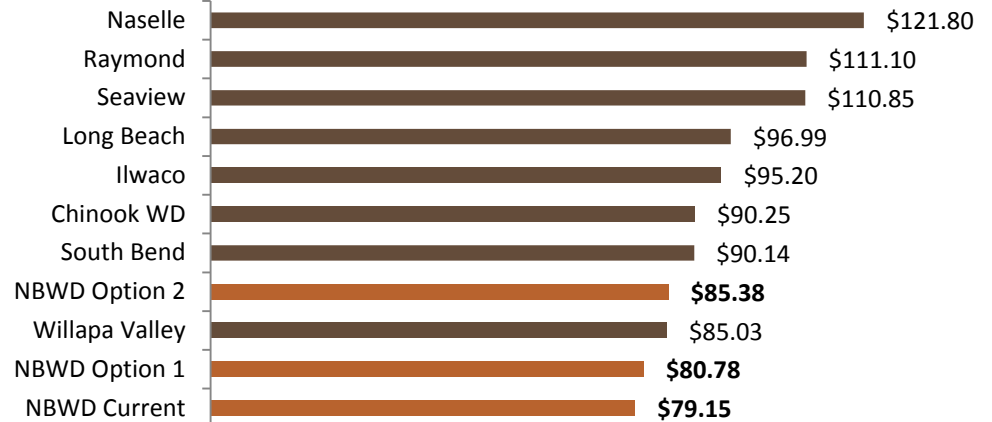


Neighboring Utility Comparison

Sample Bill - 4 ccf



Sample Bill - 18 ccf





Next Steps

- ◆ **Direction needed on overall rate increase**
 - Recommended 2.5%/year
- ◆ **Select rate design alternative**
 - Across the board
 - Higher volume
- ◆ **Public Hearing – December 11**
- ◆ **Rate Approval – December 22**

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Water Meter Charge Basis

2015 Customer Data Combined	Account Charges (a)	MCE Factors (b)	MCE Charges (c)	Monthly Fixed Charge (d)
Res/Comm				
3/4 Inch	\$ 27.90	1.00	\$ 12.67	\$ 40.56
1 Inch	\$ 27.90	1.67	\$ 21.16	\$ 49.05
1 1/2 Inch	\$ 27.90	3.33	\$ 42.18	\$ 70.08
2 Inch	\$ 27.90	5.33	\$ 67.52	\$ 95.42
3 Inch	\$ 27.90	10.67	\$ 135.16	\$ 163.06
4 Inch	\$ 27.90	16.67	\$ 211.17	\$ 239.07
6 Inch	\$ 27.90	33.33	\$ 422.21	\$ 450.11
Fire Flow				
6 Inch	\$ -	33.33	\$ 230.73	\$ 230.73
8 Inch	\$ -	53.33	\$ 369.19	\$ 369.19

(a) Account charges = total customer, peak, and fire costs ÷ total accounts

(b) Meter capacity equivalent (MCE) factors from AWWA

(c) MCE charges = MCE cost x MCE factor

where MCE cost = (meter & service costs ÷ total MCEs) + (a portion of base costs ÷ total MCEs less fire)

(d) Monthly fixed charge = a + c



Option 2 Phase-In

Phase-In Rate Summary	2015	2016	2017	2018	2019	2020
Res/Comm						
3/4 Inch	\$ 40.74	\$ 41.72	\$ 42.72	\$ 43.75	\$ 44.81	\$ 45.89
1 Inch	\$ 49.27	\$ 50.45	\$ 51.66	\$ 52.91	\$ 54.19	\$ 55.50
1 1/2 Inch	\$ 70.39	\$ 72.08	\$ 73.81	\$ 75.59	\$ 77.42	\$ 79.29
2 Inch	\$ 95.84	\$ 98.14	\$ 100.50	\$ 102.92	\$ 105.40	\$ 107.95
3 Inch	\$ 163.78	\$ 167.71	\$ 171.74	\$ 175.88	\$ 180.13	\$ 184.49
4 Inch	\$ 240.12	\$ 245.88	\$ 251.80	\$ 257.87	\$ 264.09	\$ 270.48
6 Inch	\$ 452.09	\$ 462.94	\$ 474.08	\$ 485.51	\$ 497.23	\$ 509.26
Fire Flow						
6 Inch	\$ 108.14	\$ 138.73	\$ 169.31	\$ 199.89	\$ 230.47	\$ 261.06
8 Inch	\$ 154.26	\$ 206.95	\$ 259.64	\$ 312.33	\$ 365.02	\$ 417.70
Usage (per ccf)	\$ 2.50	\$ 2.56	\$ 2.62	\$ 2.68	\$ 2.75	\$ 2.81