

City of Lowell, Oregon

Resolution 388

A Resolution Adopting a Methodology and Establishing Fees for a Water Treatment and Distribution and Sanitary Sewer Treatment and Collection System Development Charges

WHEREAS, City of Lowell Ordinance 234 establishes System Development Charges (SDCs) pursuant to ORS 223.297-223.314; and

WHEREAS, the City retained Shaun Pigott Associates to work with affected stakeholders in reviewing, analyzing and making recommendations regarding the City's water treatment and distribution, and sanitary sewer treatment and collection SDCs; and

WHEREAS, Ordinance 234 imposes the reimbursement and improvement elements of SDCs on new development within the City's service area and provides that system development methodologies for both the reimbursement and improvement portions of the charge be adopted through resolution; now therefore,

BE IT RESOLVED that:

Section 1. Methodology. The City of Lowell hereby adopts the methodology contained in the Water and Sewer System Development Charges, Executive Summary, dated March, 2004; and the Water and Sewer System Development Charges, Calculations, dated March 19, 2004, both located at Attachment One to this Resolution and by this reference are hereby incorporated into this Resolution.

Section 2. Capital Improvement Project List. The City of Lowell hereby adopts the Capital Projects listed in the chart contained in Attachment One titled "Water System and Sanitary Sewer CIP Cost Allocation Worksheet", as the Capital Projects Plan for which Water and Sewer Improvement SDCs may be charged.

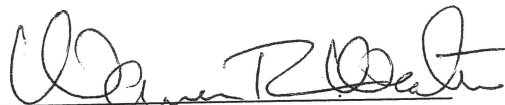
Section 3. System Development Charges Established. The following water and sewer SDCs are hereby established in accordance with the methodology contained in Attachment 1:

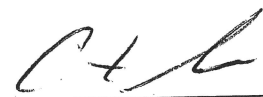
| | |
|--------------------------------|----------------|
| a. Water System Reimbursement. | \$ 282 |
| b. Water System Improvement | <u>\$2,258</u> |
| Total, Water system | \$2,540 |
| | |
| c. Sewer System Reimbursement | \$ 186 |
| d. Sewer System Improvement | <u>\$ 801</u> |
| Total, Sewer System | \$ 987 |

Section 4. Effective Date. The above rates shall be effective on the effective date of Ordinance 234, however, they shall be applied retroactively to February 1, 2000 to adjust SDCs that were adopted and collected under Ordinance 198, which was challenged. Said adjustment will be as established in policy contained in Resolution 391.

Adopted by the City Council of the City of Lowell, this 15th day of June, 2004.

Yea 3
Nay 0

Approved: 
Warren R. Weathers, Mayor

Attest: 
Charles F. Spies, City Administrator

Attachment One: City of Lowell Water and Sewer System Development Charges Executive Summary and Calculation dated March 19, 2004.

CITY OF LOWELL

WATER AND SEWER
SYSTEM DEVELOPMENT CHARGES

- EXECUTIVE SUMMARY -

MARCH 2004

SHAUN PIGOTT ASSOCIATES

Executive Summary

This study addresses the levels and structure of system development charges (SDCs) for water and sanitary sewer services needed to support the future demands on these City owned and operated systems. The key planning and analytical assumptions that have guided this project are:

1. All of the analyses that have been used to develop the recommended schedules of SDCs have been based on cost of service principles.
2. This work has been done in conjunction with the facilities planning underway for the City's overall water and sanitary sewer infrastructure.
3. This SDC methodology applies to the entire City service area.

Oregon Revised Statute (ORS) 223 establishes the framework for these charges, a framework which has been followed in analyzing the City's existing structure for SDC calculation. The basis for this analysis is the Capital Improvement Plans (CIP) that are an integral element of the City's comprehensive water and sewer facilities and financial plans. These CIPs and the update of the previous projects lists for on-going facility construction have been the basis for preparation of these revised SDC calculations. Under statute, SDC's are a one-time fee imposed on new development within the City and have two (2) specific components: reimbursement and improvement. The analyses that have been conducted within the scope of this engagement have calculated the following recommended schedule of SDC's for water and sanitary sewer services:

City of Lowell

Recommended Schedule of Water & Sanitary Sewer System Development Charges

| Type of Development/Meter Size | AWWA Rated Flow (GPM)* | Flow Factor Equivalence | System Development Charge | |
|--|------------------------|-------------------------|---------------------------|----------------|
| | | | Water | Sewer |
| Residential: Single Family Residential Unit 5/8 x 3/4 | | | \$2,540 | \$987 |
| Commercial/Industrial: 0.75 inch meters | | 1.50 | 3,809 | fixture counts |
| 1.00 inch meters | | 2.50 | 6,349 | |
| 1.50 inch meters | | 5.00 | 12,698 | |
| 2.00 inch meters | | 8.00 | 20,317 | |
| 3.00 inch meters | | 16.00 | 40,634 | |

* - Per American Water Works Association standards effective June 1, 1996 for cold water meters- displacement type, bronze main case. ANSI approval January 12, 1996.

The improvement portion of the SDC is based on the cost of facilities which either expand the water or sewer system's capacity to accommodate growth or increase its level of performance. In developing this improvement portion of the fee, we have evaluated each project to ensure that costs related to correcting existing system deficiencies or upgrading for historic lack of capacity have been excluded. Therefore, only capacity increasing/level of performance costs provide the basis for the SDC calculation as reflected in the attached capital improvement schedules. Population and future demand analysis are based on City projections. The improvement fee is calculated as a function of the estimated number of projected additional EDU's to be served by the City's facilities over the buildout horizon.

System Development Charges

Effective July 1, 1991 all system development charges (SDC's) implemented by jurisdictions within Oregon are required to comply with ORS 223.297 through 223.314. The City currently charges both a water and a sanitary sewer SDC. As part of the scope of work for this project, the consultant team was requested to review the City's policies concerning SDCs and to evaluate the current charge. As part of periodic review of the water and wastewater systems, the City has determined that SDCs should be developed consistent with the objective that growth be required to pay its fair share of its impact on current and future facilities that will be able to provide water and wastewater capacity to new system users. In order to further guide this SDC analysis, the City has stated a number of objectives:

- Review the basis for the charges and develop a consistent methodology for SDC's;
- Determine the most appropriate and defensible fee which ensures that new development is paying its fair share of incurred public facility costs;
- Update cost and use projections on a planning horizon which is consistent with the City's comprehensive facilities and strategic financial plans;
- Establish policy recommendations which make the charges as fair and equitable as possible; and
- Provide clear and orderly documentation regarding the methodology, assumptions and costs supporting the proposed SDCs.

As stated above, system development charges are authorized by Oregon Revised Statutes (ORS) 223.297-223.314. The statute is specific in establishing the structure for SDC's, how they can be applied, how these funds can be used and the means of their accounting. SDC's are a one time fee imposed on new development, intended to promote equity between new and existing users of public facilities by recovering a proportionate share of existing and planned capital facilities which serve or will serve developing property within the urban growth boundary of the City.

ORS 223 further provides that the charge be calculated based on two fee components. These components are:

- Reimbursement - designed to recover costs associated with capital improvements already constructed or under construction; and
- Improvement - designed to recover costs associated with capital improvements to be constructed.

Under ORS 223, the reimbursement fee must consider the cost of existing facilities, prior contributions by existing users of those facilities, the value of the unused/available capacity, and generally accepted ratemaking principles. The objective is to ensure that future system users contribute no more than their fair share to the cost of existing or under construction facilities. The reimbursement fee can be spent on capital costs or debt service related to the systems for which the SDC is applied. This means that the reimbursement fee revenues can be used on capital outlays for both existing and future construction, but must be used only for the type of facility for which they are collected.

The improvement fee addresses the cost of future capital improvements needed to increase the capacity or level of service of the system. In other words, the cost of planned projects which correct existing deficiencies may not be included in the improvement fee calculation. Also, there must be made available to new development a credit to this fee which recognizes any additional costs which new construction incurs in providing a qualified public improvement. Improvement fee proceeds can only be spent on capital costs or debt service related to planned capacity increasing improvements specific to the service for which the fee is levied.

Contained in the following table are the summary results of the analysis that has been undertaken to calculate cost of service based SDCs for new water and sanitary sewer service customers that wish to connect to the City's system.

City of Lowell
Calculation of Water and Sanitary Sewer System Development Charges

| Line Item Description | Water | Sewer |
|---|-------------------|---------------|
| Reimbursement Fees: | | |
| Utility Plant In Service Costs less contributed capital and outstanding loans | \$ 247,503 | \$ 158,358 |
| | | |
| EDUs Served and to be Served | 878 | 851 |
| Reimbursement Fee per EDU | <u>\$ 281</u> | <u>\$ 186</u> |
| Improvement Fees: | | |
| Future Capital Costs Assigned to New Users of the System | | |
| Water System Clearwell | 248,063 | |
| Backwash Pond | 62,758 | |
| Reservoir | 790,903 | |
| Sewer Advanced Treatment | | 359,551 |
| Total | 1,101,724 | 359,551 |
| EDUs Served and to be Served | 488 | 449 |
| Improvement Fee per EDU | <u>\$ 2,258</u> | <u>\$ 801</u> |
| Recommended Total SDC per EDU: | | |
| Reimbursement | 282 | 186 |
| Improvement | <u>2,258</u> | <u>801</u> |
| Total | <u>\$, 2,540</u> | <u>\$ 987</u> |

CITY OF LOWELL

WATER AND SEWER SYSTEM DEVELOPMENT CHARGES

CALCULATIONS

MARCH 19, 2004

City of Lowell, Oregon
System Development Charge Study - 2004 Update
Reimbursement Fee Calculations for Water and Sewer Systems

| Line Item Description and Data Source | Water | Sewer |
|--|------------------|------------------|
| Utility Plant in Service at cost: See attached detail sheets for audited or amended expenditure data less contributed capital and less outstanding loan amounts | \$ 247,503 | \$ 158,358 |
| Net Basis in Utility Plant In Service Available to Serve Future Customers | \$ 247,503 | \$ 158,358 |
| Total Equivalent Dwelling Units | 879 | 851 |
| Calculated Fee Charged to New Customer to Reimburse Existing Customers for Their Net Investment in Capacity | <u>\$ 281.57</u> | <u>\$ 186.08</u> |

WATER

| AUDIT YEAR | NEW WATER ENDING "GRANTS" | NEW WATER "CONTRIBUTED CAPITAL" | NET NEW CITY EXPENDITURE OR (INCOME) | NEW FIXED ASSETS | TOTAL WATER "GRANTS" ASSUME -0- | TOTAL WATER "CONTRIBUTED CAPITAL" | NET TOTAL CITY EXPENDITURE OR (INCOME) | TOTAL FIXED ASSETS |
|------------|---------------------------|---------------------------------|--------------------------------------|------------------|---------------------------------|-----------------------------------|--|--------------------|
| 1985 | 0 | 0 | 0 | 0 | 0 | 643827 | (1864) | 641963 |
| 1987 | 0 | 0 | 451 | 451 | 0 | 643827 | (1413) | 642414 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 643827 | (1413) | 642414 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 643827 | (1413) | 642414 |
| 1990 | 7500 | 0 | (7500) | 0 | 7500 | 643827 | (8913) | 642414 |
| 1991 | 0 | 0 | 36163 | 36163 | 7500 | 643827 | 27250 | 678577 |
| 1992 | 331000 | 0 | 14649 | 345649 | 338500 | 643827 | 41899 | 1024226 |
| 1993 | 0 | 0 | 0 | 0 | 338500 | 643827 | 41899 | 1024226 |
| 1994 | 0 | 0 | 2600 | 2600 | 338500 | 643827 | 44499 | 1026826 |
| 1995 | 0 | 0 | 12500 | 12500 | 338500 | 643827 | 56999 | 1039326 |
| 1996 | 0 | 425 | 13829 | 14254 | 338500 | 644252 | 70828 | 1053580 |
| 1997 | 125775 | 0 | 28509 | 154284 | 464275 | 644252 | 99337 | 1207864 |
| 1998 | 74229 | 0 | (22437) | 51792 | 538504 | 644252 | 76900 | 1259656 |
| 1999 | 39216 | 0 | (10329) | 28887 | 577720 | 644252 | 66571 | 1288543 |
| 2000 | 56513 | 0 | 21504 | 78017 | 634233 | 644252 | 88075 | 1366560 |
| 2001 | 75723 | 0 | (2798) | 72925 | 709956 | 644252 | 85277 | 1439485 |
| 2002 | 595748 | 0 | 151634 | 747382 | 1305704 | 644252 | 236911 | 2186867 |
| 2003 | 42691 | 0 | 0 | 42691 | 1348395 | 644252 | 236911 | 2229558 |

plus 36 payments on general obligation bond for 1969 water plant construction @ \$4,986 less outstanding principal on 2002 water plant loan per FY 2002-2003 audit (208594)
 plus interest payments made on the 2002 water plant loan through FY 2002-2003 13804
 plus principal and interest to be paid on 2002 water plant loan in FY 2003-2004 17277
 plus capital outlay for water infrastructure paid in FY 2003-2004 8609

EQUALS TOTAL CITY NON-GRANT EXPENDITURES FOR WATER INFRASTRUCTURE 247503

NOTE: This \$425 was apparently City money spent for water billing software (not SDC eligible)

SEWER

| AUDIT YEAR | NEW SEWER "GRANTS" ENDING | NEW SEWER "CONTRIBUTED CAPITAL" | NET NEW CITY EXPENDITURE OR INCOME | NEW CITY EXPENDITURE OR INCOME | NEW FIXED ASSETS | TOTAL SEWER "GRANTS" | TOTAL SEWER "CONTRIBUTED CAPITAL" | NET TOTAL CITY EXPENDITURE OR INCOME | TOTAL FIXED ASSETS |
|------------|---------------------------|---------------------------------|------------------------------------|--------------------------------|------------------|----------------------|-----------------------------------|--------------------------------------|--------------------|
| 1985 | 0 | 0 | 0 | 0 | 0 | ASSUME -0- | 529458 | 12973 | 542431 |
| 1987 | 12923 | 0 | (12729) | 194 | 194 | 12923 | 529458 | 244 | 542625 |
| 1988 | 17926 | 0 | (1550) | 16376 | 16376 | 30849 | 529458 | (1306) | 559001 |
| 1989 | 30000 | 90000 | 8779 | 128779 | 128779 | 60849 | 619458 | 7473 | 687780 |
| 1990 | 0 | 1228981 | 4187 | 1233168 | 1233168 | 60849 | 1848439 | 11660 | 1920948 |
| 1991 | 0 | 142731 | 9191 | 151922 | 151922 | 60849 | 1991170 | 20851 | 2072870 |
| 1992 | 12368 | 0 | (4486) | 7882 | 7882 | 73217 | 1991170 | 16365 | 2080752 |
| 1993 | 0 | 52235 | (17674) | 34561 | 34561 | 73217 | 2043405 | (1309) | 2115313 |
| 1994 | 0 | 0 | 42725 | 42725 | 42725 | 73217 | 2043405 | 41416 | 2158038 |
| 1995 | 2821 | 0 | 6249 | 9070 | 9070 | 76038 | 2043405 | 47665 | 2167108 |
| 1996 | 0 | 425 | 9364 | 9789 | 9789 | 76038 | 2043830 | 57029 | 2176897 |
| 1997 | 72661 | 0 | 65902 | 138563 | 138563 | 148699 | 2043830 | 122931 | 2315460 |
| 1998 | 14755 | 0 | (14755) | 0 | 0 | 163454 | 2043830 | 108176 | 2315460 |
| 1999 | 11766 | 0 | (11766) | 0 | 0 | 175220 | 2043830 | 96410 | 2315460 |
| 2000 | 12866 | 0 | 16371 | 29237 | 29237 | 188086 | 2043830 | 112781 | 2344697 |
| 2001 | 84966 | 0 | (29290) | 55676 | 55676 | 273052 | 2043830 | 83491 | 2400373 |
| 2002 | 62219 | 0 | (62219) | 0 | 0 | 335271 | 2043830 | 21272 | 2400373 |
| 2003 | 3135 | 0 | 159563 | 162698 | 162698 | 338406 | 2043830 | 180835 | 2563071 |

plus 1989 \$90000 capital contribution??
 less outstanding principal on 2003 sewer plant loan per FY 2002-2003 audit
 plus interest payments made on the 2003 sewer plant loan through FY 2002-2003
 plus principal and interest to be paid in 2003 sewer plant loan in FY 2003-2004

EQUALS TOTAL CITY NON-GRANT EXPENDITURES FOR SEWER INFRASTRUCTURE

90000
 (143464)
 0
 30987
158358

NOTE: This \$425 was apparently City money spent for sewer billing software (not SDC eligible)
 NOTE: These three contributions (\$1228981, \$142731, \$52235) should have been reported as "grants" in the audit.
 NOTE: This \$90,000 was apparently a transfer from the SDC fund...but did City contribute that money (Post-Office sale?)

City of Lowell
System Development Charge Study - 2004 Update
Preliminary Water System and Sanitary Sewer CIP Cost Allocation worksheet

| Project Number | Project Description | Total Cost | | COST ALLOCATION (%) TO CUSTOMERS | | | | | |
|----------------|---|--------------------|--------------------|----------------------------------|------------------|------------------|---------------|--------------------|--------------------|
| | | | | Existing (RATES) | | | Future (SDCS) | | |
| | | Uninflated | Inflated from '01 | % | Uninflated | Inflated | % | Uninflated | Inflated |
| | Water System Capital Improvements | | | | | | | | |
| | | | | | | | | | |
| 1 | Clearwell | 221,000 | 248,063 | 0.00% | 0 | 0 | 100.00% | 221,000 | 248,063 |
| 2 | Backwash Pond | 80,000 | 87,164 | 28.00% | 22,400 | 24,406 | 72.00% | 57,600 | 62,758 |
| 3 | Reservoir | 725,900 | 790,903 | 0.00% | 0 | 0 | 100.00% | 725,900 | 790,903 |
| 4 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 5 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 6 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 7 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 8 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 9 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 10 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 11 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 12 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 13 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 14 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 15 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| | Subtotal Water System Capital Improvements | \$1,026,900 | \$1,126,129 | | \$22,400 | \$24,406 | | \$1,004,500 | \$1,101,723 |
| | | | | | | | | | |
| | Sewer System Capital Improvements | | | | | | | | |
| | | | | | | | | | |
| 1 | Moss Street Pipe to Shore Drive | 188,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 2 | Alder Street Pump Station Upgrade | 74,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 4 | Headworks Replacement | 170,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 5 | Primary Treatment | 286,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 6 | Secondary Treatment | 104,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 7 | Advanced Treatment | 550,000 | 599,252 | 40.00% | 220,000 | 239,701 | 60.00% | 330,000 | 359,551 |
| 8 | Sludge Drying Beds Liner | 36,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 9 | Disinfection Improvements | 120,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 10 | Solids Stabilization | 320,000 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 12 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 13 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 14 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 15 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| 16 | | 0 | 0 | 0.00% | 0 | 0 | 0.00% | 0 | 0 |
| | Subtotal Sewer System Capital Improvements | \$550,000 | \$599,252 | | \$220,000 | \$239,701 | | \$330,000 | \$359,551 |

**City of Lowell
System Development Charge Study - 2004 Update
EDU Forecast Worksheet**

Forecasted Annual Percentage Growth Rate 3.20% (sewer master plan)

| Year | Population | | | Sanitary Sewer Growth Forecast | | | Water System Growth Forecast | | |
|------|------------|-----------|----------|--------------------------------|-----------|----------|------------------------------|-----------|----------|
| | Actual | Additions | Forecast | Actual | Additions | Forecast | Actual | Additions | Forecast |
| 2001 | | | | 402 | | | 391 | | |
| 2002 | | | 0 | | 13 | 415 | | 13 | 404 |
| 2003 | | | 0 | | 13 | 428 | | 13 | 416 |
| 2004 | | | 0 | | 14 | 442 | | 13 | 430 |
| 2005 | | | 0 | | 14 | 456 | | 14 | 444 |
| 2006 | | | 0 | | 15 | 471 | | 14 | 458 |
| 2007 | | | 0 | | 15 | 486 | | 15 | 472 |
| 2008 | | | 0 | | 16 | 501 | | 15 | 487 |
| 2009 | | | 0 | | 16 | 517 | | 16 | 503 |
| 2010 | | | 0 | | 17 | 534 | | 16 | 519 |
| 2011 | | | 0 | | 17 | 551 | | 17 | 536 |
| 2012 | | | 0 | | 18 | 568 | | 17 | 553 |
| 2013 | | | 0 | | 18 | 587 | | 18 | 571 |
| 2014 | | | 0 | | 19 | 605 | | 18 | 589 |
| 2015 | | | 0 | | 19 | 625 | | 19 | 608 |
| 2016 | | | 0 | | 20 | 645 | | 19 | 627 |
| 2017 | | | 0 | | 21 | 665 | | 20 | 647 |
| 2018 | | | 0 | | 21 | 687 | | 21 | 668 |
| 2019 | | | 0 | | 22 | 709 | | 21 | 689 |
| 2020 | | | 0 | | 23 | 731 | | 22 | 711 |

Planning Period Growth Forecast

449

488

City of Lowell
Calculation of Water and Sanitary Sewer SDCs - Improvement Element

| Line Item Description | Uninflated | | Inflated | |
|---|-------------|--------------|-------------|--------------|
| | Total \$ | Rate per EDU | Total \$ | Rate per EDU |
| Capital Improvement Program Costs Assigned | | | | |
| Water System Capital Improvements | \$1,004,500 | | \$1,101,723 | |
| Sewer System Capital Improvements | \$330,000 | | \$359,551 | |
| Forecast of Future Service Demands | | | | |
| Water System - Equivalent Residential Meters | 488 | | 488 | |
| Sewer System - Equivalent Residential Units | 449 | | 449 | |
| Unit Rate for Improvement Fee | | | | |
| Water | | \$2,058 | | \$2,258 |
| Sanitary Sewer | | \$735 | | \$801 |

City of Lowell
Total (Reimbursement & Improvement) System Development Charges

| Type of Development/Meter Size | AWWA Rated Flow (GPM)* | Flow Factor Equivalence | System Development Charge | |
|--|------------------------|-------------------------|---------------------------|-------|
| | | | Water | Sewer |
| Residential: | | | | |
| Single Family Residential Unit - 5/8" x 3/4" | 10 | 1.00 | \$2,540 | \$987 |
| Non Single Family: | | | | |
| 0.75 inch | 15 | 1.50 | 3,809 | |
| 1.00 inch | 25 | 2.50 | 6,349 | |
| 1.50 inch | 50 | 5.00 | 12,698 | |
| 2.00 inch | 80 | 8.00 | 20,317 | |
| 3.00 inch | 160 | 16.00 | 40,634 | |

* - Per American Water Works Association standards effective June 1, 1996 for cold water meters- displacement type, bronze main case. ANSI approval January 12, 1996.