

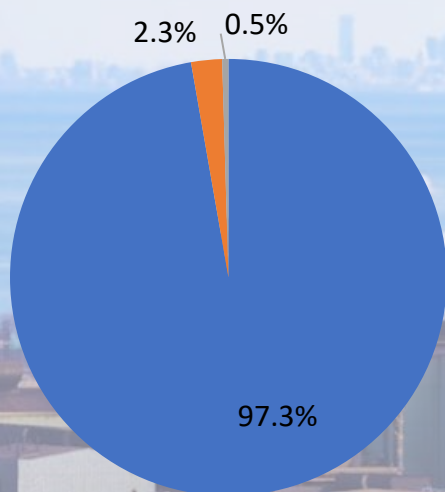
# Large Meter Maintenance

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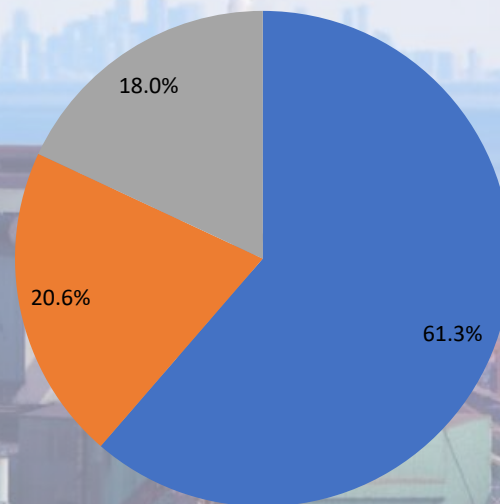


**% of Total Meter Population**



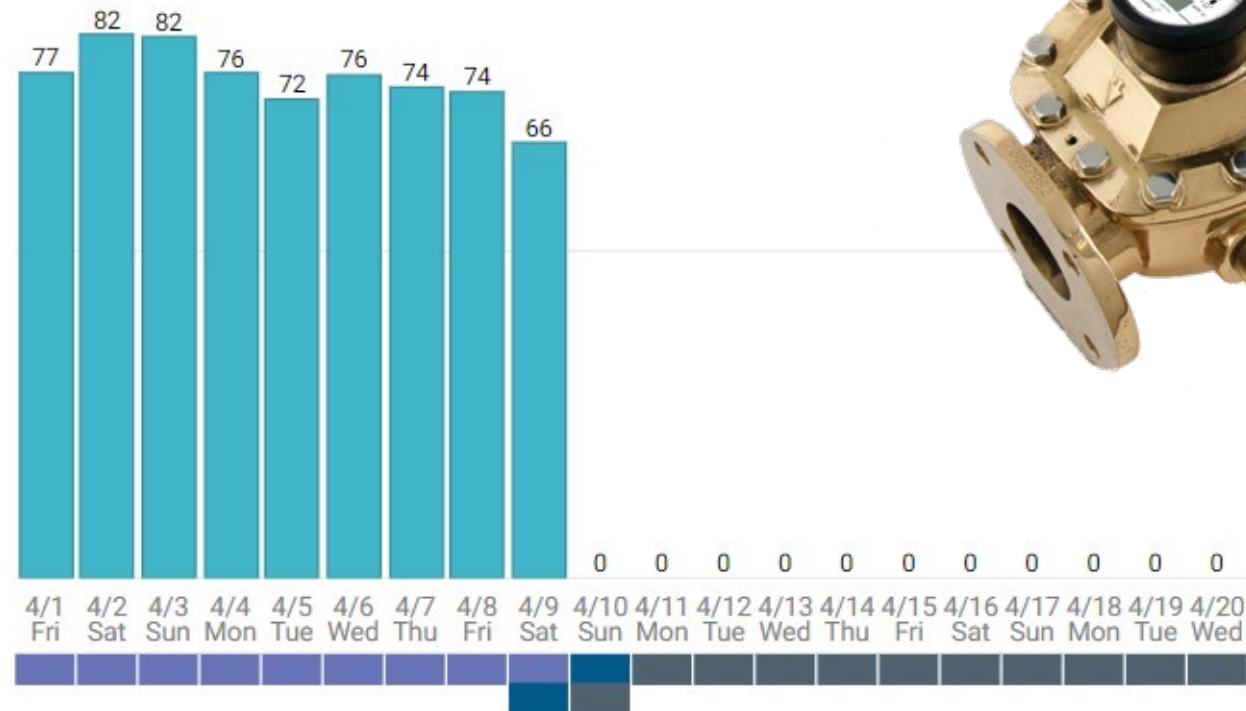
■ Small Meters ■ Intermediate Meters ■ Large Meters

**% of Total Water Consumption**



■ Small Meters ■ Intermediate Meters ■ Large Meters

# Large Meter Maintenance



Reactive

Proactive

# Large Meter Maintenance

## Program Development

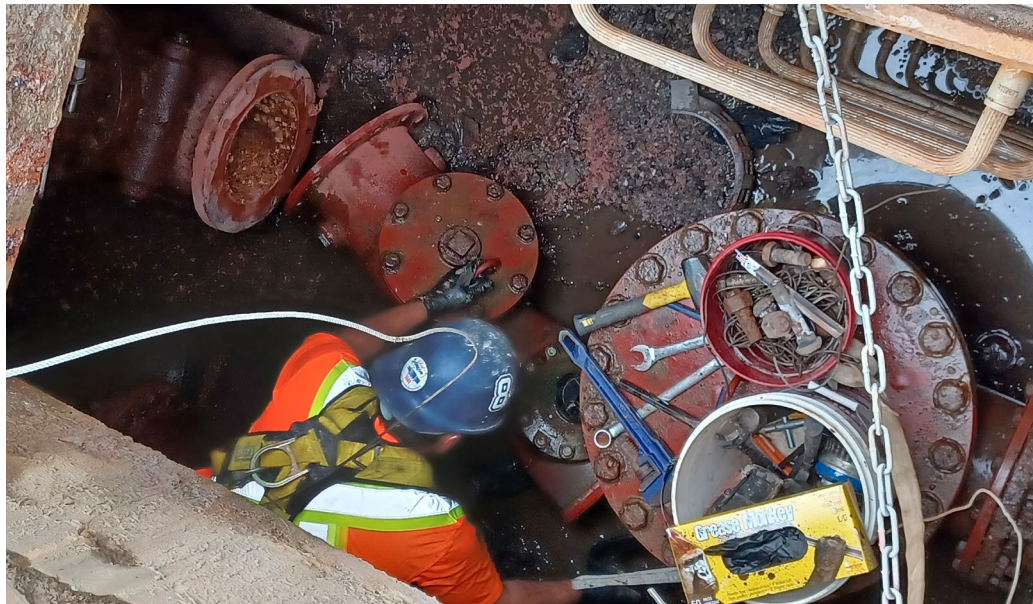
- Develop sustainable meter maintenance program
- Based on risk – highest users, oldest meters
- Based on Neptune SEER data – accuracy decline over time and usage

## Criteria

- Annual maintenance for boundary meters, bulk fill stations and largest users
- All other meters are tested every 5 years, with 20% completed every year
- Exclude meters replaced or repaired in the previous year

# Large Meter Maintenance

COSTS	QTY	COST
TEST COST-PASS	77 meters	\$ 24,420.64
TEST COST- FAIL	25 meters	\$ 62,531.60
REPAIRS	23 meters	\$ 117,478.49
<b>TOTAL COST</b>		<b>\$ 204,430.73</b>





# Large Meter Maintenance

Unit ID	TEST RESULT	USAGE	BILLED REVENUE	LOST REVENUE	REPAIR COST	R.O.I
P70051190M-H	14.26%	410m3	\$1,443.20	\$1,391.24	\$22,704.68	16 years
P60591482M-L	0.00%					
P70257376@M-H	21.61%	27,737m3	\$97,634.24	\$49,402.92	\$5,290.61	1.5 months
P61016662@M-L	88.45%					
P70219230-H	22.56%	83,220m3	\$292,934.40	\$87,880.32	\$4,827.80	3 weeks
P60993781-L	99.77%					
P70194620-H	55.93%	6,180m3	\$21,753.60	\$3,263.04	\$3,021.04	12 months
P70194620-L	101.65%					
P70278658-H	74.16%	1,222,350m3	\$4,302,672.00	\$2,008,057.02	\$7,430.88	1.5 days
P61057348-L	63.01%					

<b>REVENUE RECOVERED</b>	<b>\$2,499,504.48</b>
<b>TOTAL COST</b>	<b>\$ 204,430.73</b>
<b>RETURN ON INVESTMENT</b>	<b>30 DAYS</b>

**Client Information**

Client: The City of Hamilton  
 Client Address: 330 Wentworth St North  
 City: Hamilton  
 Province: ON  
 Postal Code: L8L 5W2

Contact Name: DOFASCO INC

**Meter Information**

Service Address: 560 OTTAWA ST N, HAMILTON, ON  
 Manufacturer: NEPTUNE  
 Size: 6  
 Serial No. 70212235  
 Low Reading: 90275.2

Account No.: 6866915  
 Model: TF  
 Unit of Measure: M3  
 Test Type: As Found  
 High Reading: 0396000

**Meter Flow Test Data**

Flow Test	Flow Rate (LPM)	Low Side Volume (M3)	High Side Volume (M3)	M-U-T Volume (M3)	Test Rig Volume (M3)	Test Rig Accuracy (%)	M-U-T Accuracy (%)	Result	AWWA Criteria Range (%)
LOW	31	0.1280	0.0000	0.1280	0.1270	100.00%	100.79%	Pass	95-104
INTERMEDIATE	77	0.2080	0.0000	0.2080	0.2300	100.00%	90.43%	Pass	90-104
CROSSOVER	99	0.2440	0.0000	0.2440	0.2920	100.00%	83.56%	Fail	90-104
HIGH	389	0.3750	-0.1300	0.2450	1.2150	100.00%	20.16%	Fail	95-104
HIGH	688	0.1820	0.1000	0.2820	1.2210	100.00%	23.10%	Fail	95-104

Average Accuracy: 63.61%

# Large Meter Maintenance

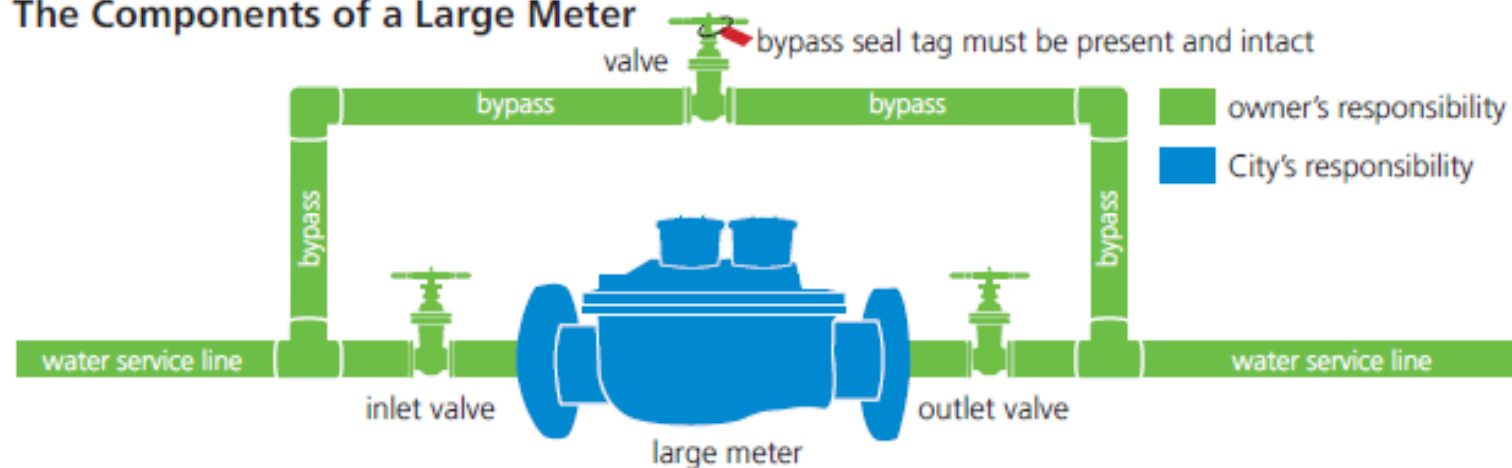
## Challenges

- Getting access
- Private plumbing issues





## The Components of a Large Meter



## Who is Responsible?



## Ongoing Maintenance?

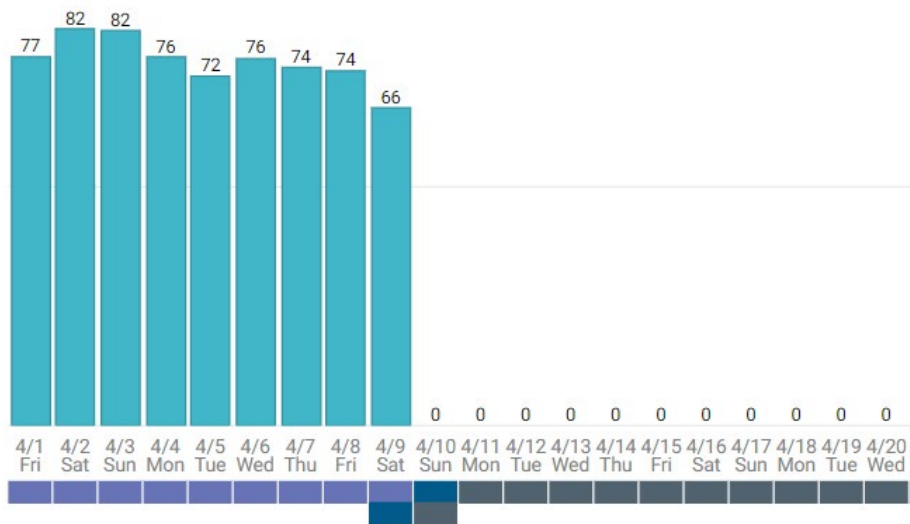
To avoid an interruption to your water service ongoing maintenance is extremely important.



# Large Meter Maintenance

## Future

- AMI will give us a closer eye on things
- Replacing mechanical compound meters to solid state ultrasonic
- Order to Comply



# Large Meter Maintenance

**Questions?**