



Pipeline Integrity Program Update

Board Committee
September 28, 2021

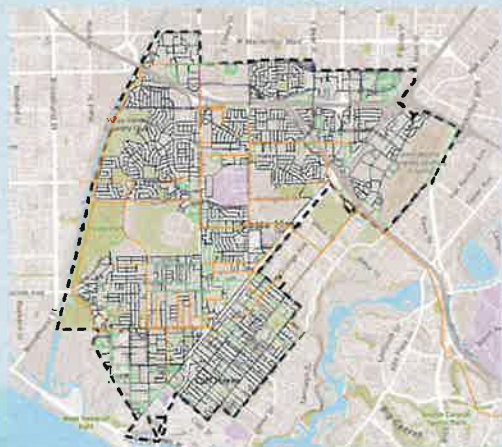


Agenda

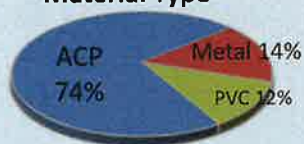
- Pipeline Integrity Program History
- Resolution 1525 Replacement of Assets Implementation
- Pipeline Performance FY20-21
- Pipeline Testing Program Accomplishments FY20-21
- Pipeline Renewal
- Summary and Continuous Improvement

Pipeline Integrity Program History

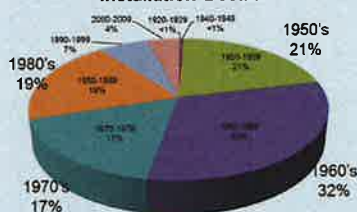
2013 Questions: "If we had to replace all of our pipelines in 100 years:
How much would it cost? How would we do it? How would we fund it?"



Material Type



Installation Decade

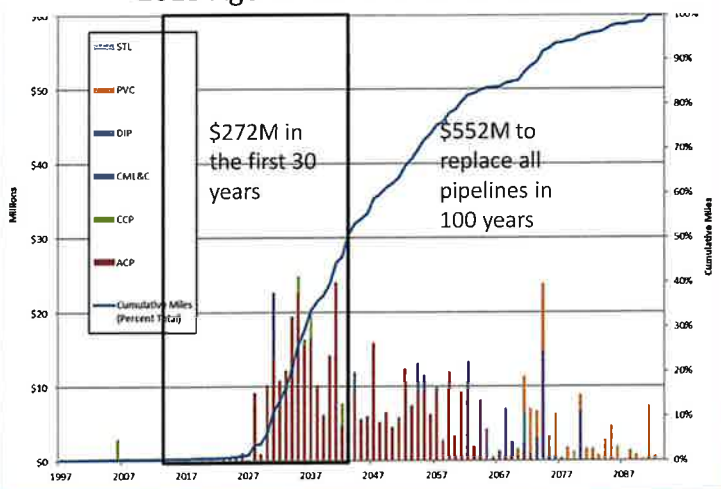


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Pipeline Integrity Program History

2013 Age-Based Renewal Forecast



Pipeline Integrity Program Goals

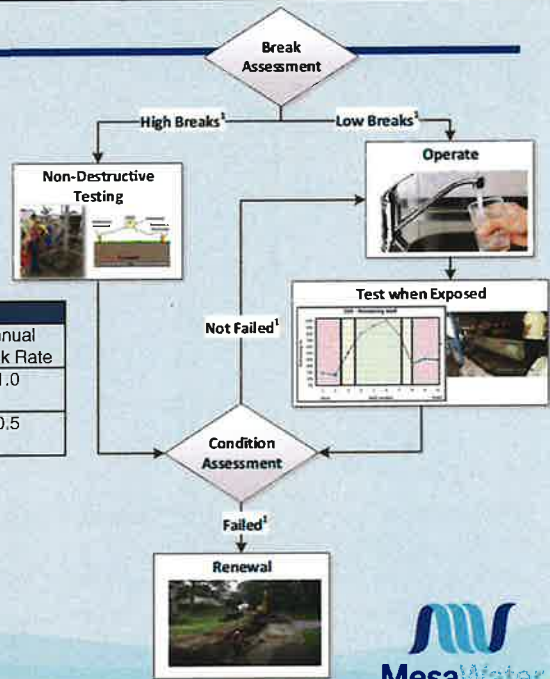
- Maximize investment
- Replace at end of Useful Life

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Resolution 1525 Replacement of Assets

Type of Pipeline	Condition Assessment			Replacement	
	Number of Breaks	Annual Break Rate	Remaining Useful Life	Number of Breaks	Annual Break Rate
Distribution (14" Dia. and smaller)	3	0.2	<10 years	5	1.0
Transmission (16" Dia. and greater)	2	0.2	<10 years	3	0.5



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Resolution 1525 Replacement of Assets

Break Data Checklist

Work Order Number _____ Work Order Date _____
 Atlas page _____ GPS Coordinate _____ Pipe Dia. _____
 Circle Pipe Material: ACP CMLC CCP CIP PVC(C900) Other _____
 Break was on: Circle: Main Line Filing Service Line Lateral Sub-out _____
 Circle samples collected and labeled: ACP sample _____ Soil Sample _____
 Photos of break taken? Circle: Yes No _____
 External loads observed? Circle: Tree Storm drain pipe Fading Shallow cover Other _____
 Contract hit or other third party responsible? Circle: Yes No _____
 Main Line Break Assessment: Circle the picture that most resembles the break by pipe material
CMLC, CCP or CIP

Other break types:

Main Breaks 2011-2021



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Pipeline Performance FY 20-21

Main Breaks By Size and Material

FY	Distribution (Diameter less than 16")			Transmission (Diameter 16" and greater)	Total Breaks
	ACP	Metal	PVC	Metal	
2020	3	4	0	1	8
2021	3	1	0	1	5

Main Breaks By Cause

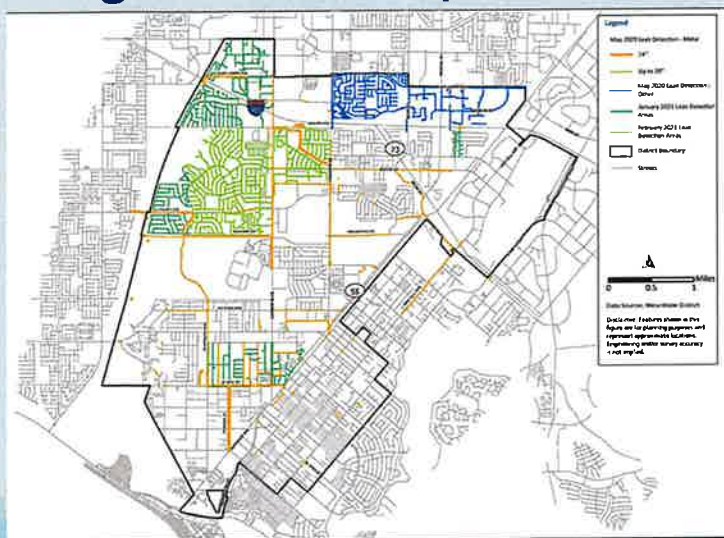
FY	Contractor Hit	Fitting Failure	Pipe Failure	Other	Total Breaks
2020	1	3	4	0	8
2021	0	1	4	0	5



Pipeline Testing Program Accomplishments

Non-Destructive Testing FY 20-21

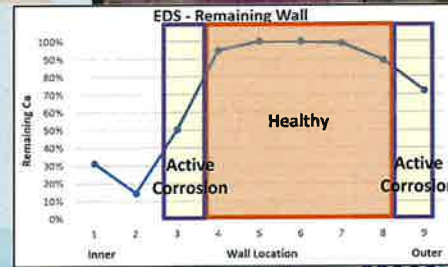
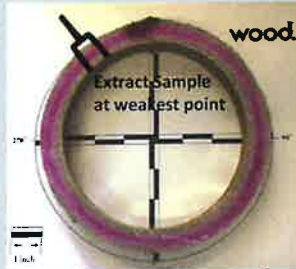
- Leak Detection performed on approx. 90 miles of pipeline
- No Mainline leaks found



Pipeline Testing Program Accomplishments

Exposed Pipe Testing FY 20-21

- 13 AC Pipe Samples collected during valve replacements
- Walk thickness measurements using stain test and EDS
- Remaining useful life for FY 20-21 samples is 77 years.



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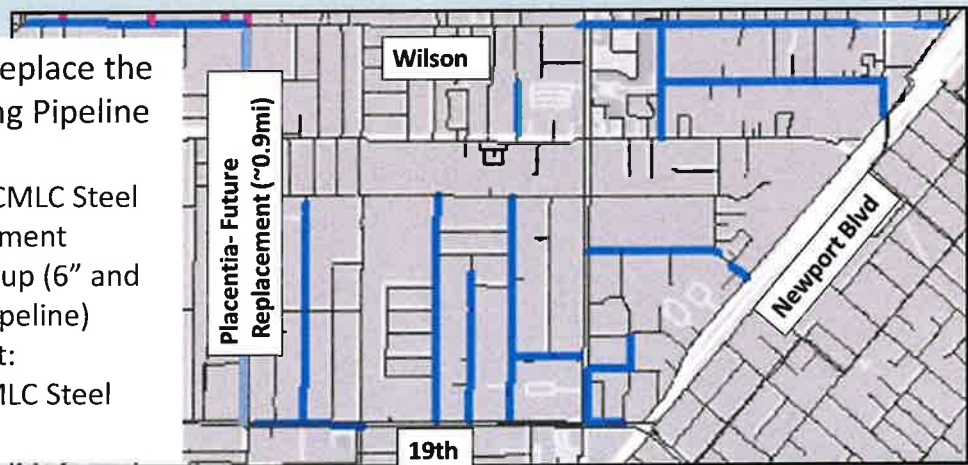
Pipeline Renewal

CIPR Projects to Replace the Poorest Performing Pipeline Cohort Group:

- Wilson Ave 12" CMLC Steel Pipeline Replacement
- 1951 Cohort Group (6" and 8" CMLC Steel Pipeline)

Future Replacement:

- 14" Placentia CMLC Steel Pipeline



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Summary of Pipeline Performance

FY	Annual Break Rate (Breaks/Year)	Annual Breaks Per Mile of Pipeline (Breaks/Mile/Year)
20	8	0.03
21	5	0.02
Historical	13	0.04

Continuous Improvement

- ✓ Pressure management
- ✓ Better break data
- ✓ Completion of the OC-44 Slip Lining Project (FY2020)
- ✓ In Process replacement of poorest performing group of pipelines

