

City of Milwaukee Department of Public Works



2014 Sewer Budget

2014 Sewer Program

Sewer Maintenance Relay

Paving Related Projects	\$3,220,000
Non-Paving Related Projects	\$25,480,000
Preliminary Engineering for 2015 Projects	\$1,500,000
Fringe Benefits	\$800,000
<u>Total Sewer Maintenance Relay</u>	<u>\$31,000,000</u>

Sanitary Pump Rehabilitation Project

Sanitary Bypass Pump Rehabilitation	\$500,000
Sanitary Bypass & Lift Station Pump Inspection	\$150,000
Fringe Benefits	\$50,000
<u>Total Sanitary Pump Rehabilitation</u>	<u>\$700,000</u>

I/I Reduction Projects

I/I Reduction Projects	\$1,755,000
Noncompliant Metershed Areas	\$3,035,000
Sanitary Manhole Inspection & Rehabilitation	\$1,000,000
Fringe Benefits	\$500,000
Reserves	\$710,000
MMSD Grant	\$1,750,000
<u>Total I/I Reduction Projects</u>	<u>\$8,750,000</u>

Channel Maintenance	<u>\$200,000</u>
Water Quality Projects	<u>\$1,000,000</u>

<u>Total 2014 Preliminary Sewer Program</u>	<u>\$41,650,000</u>
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6 Year Capital Improvement Program

	Relief and Relay	Inflow and Infiltration	Pump Rehabilitation	Water Quality Projects	Channel Maintenance	Total Budget
Year	(million)	(million)	(million)	(million)	(million)	(million)
2013	\$30.00 ^Δ	\$9.75 ^{**}	\$0.75	\$0.50	\$0.16	\$41.16
2014	\$31.00 ^Δ	\$8.75 ^{**}	\$0.70	\$1.00	\$0.20	\$41.65
2015	\$32.00 ^Δ	\$8.75 ^{**}	\$0.70	\$0.50	\$0.20	\$42.15
2016	\$33.00 ^Δ	\$8.75 ^{**}	\$0.70	\$0.50	\$0.20	\$43.15
2017	\$34.00 ^Δ	\$8.75 ^{**}	\$0.70	\$0.50	\$0.20	\$44.15
2018	\$35.00 ^Δ	\$8.75 ^{**}	\$0.70	\$0.50	\$0.20	\$45.15
Total	\$195.00	\$53.50	\$4.25	\$3.50	\$1.16	\$257.41

** INCLUDES \$1.75M GRANT FROM MMSD

^Δ DOES NOT INCLUDE RESERVES

2013-2018 Relief and Relay

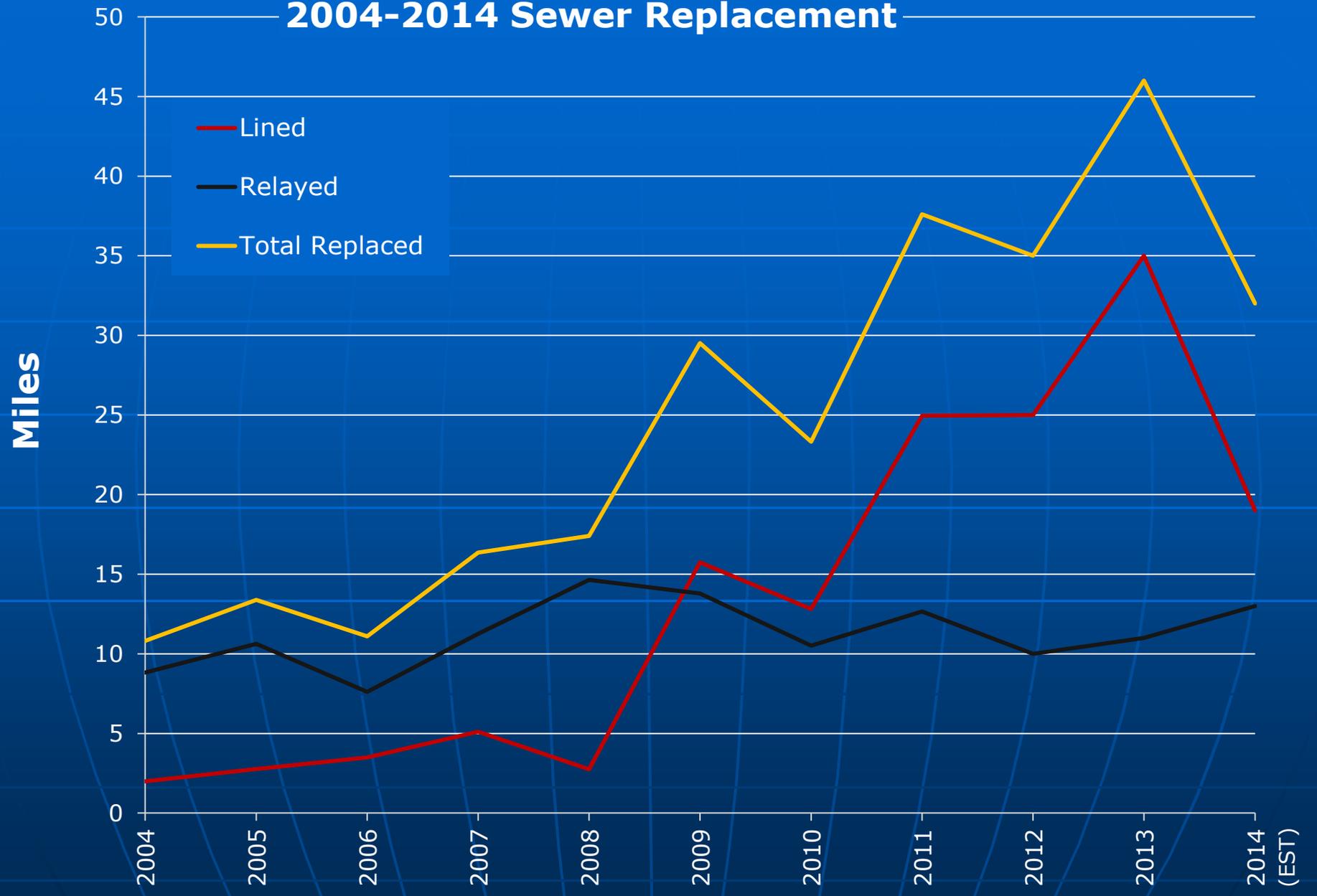
	R/R Budget (million)
2013	\$30.00
2014	\$31.00
2015	\$32.00
2016	\$33.00
2017	\$34.00
2018	\$35.00
Total	\$195.00



N. 26th St. and W. State St.

**126-INCH DIAMETER
SLIP LINER PROJECT**

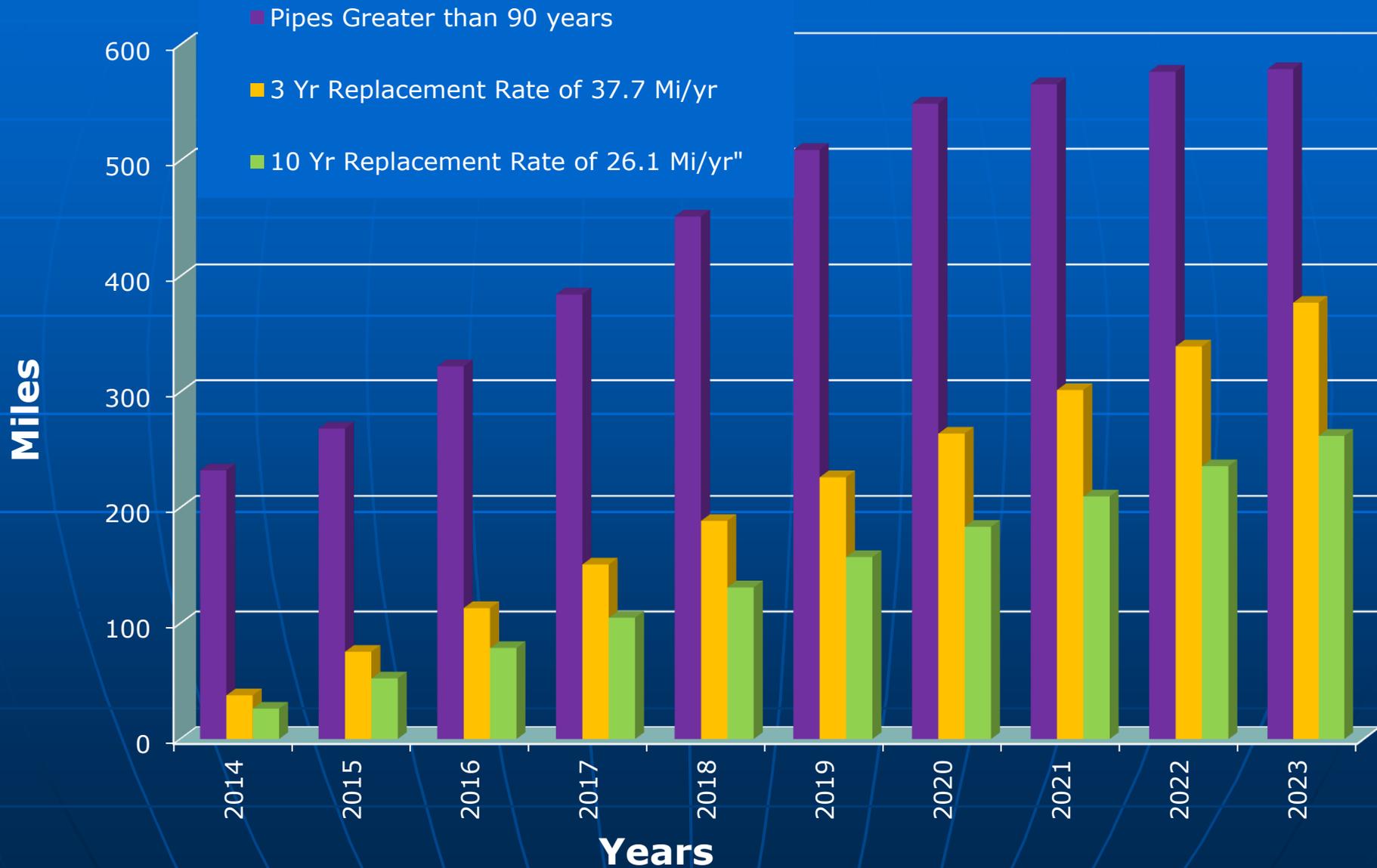
2004-2014 Sewer Replacement



Age of Sewers

Type of Sewer	< 50 Years	51 to 90 years	> 90 Years	Total
	(miles)	(miles)	(miles)	(miles)
Combined	270	111.3	168.7	550
Sanitary	354.3	568.2	20.9	943.4
Storm	280.1	663.2	20.6	963.9
Total	904.4	1,342.7	210.2	2,457.3

Future Sewer Lengths needed to be rehabilitated that are greater than 90-Years Old 2014-2023



Sewer Replacement Information

- 210 miles of sewers that are greater than 90-years old
- With 2,457 miles of sewer in the City and an annual replacement rate of 26.1 miles our current sewer replacement rate is once every 94 years
- With 2,457 miles of sewer in the City and a useful sewer life cycle of 90 years the replacement rate needed to meet the 90 year useful life cycle is 27.3 miles annually

2013-2018 Inflow and Infiltration (I/I)

	I/I Budget (million)
2013	\$9.75
2014	\$8.75
2015	\$8.75
2016	\$8.75
2017	\$8.75
2018	\$8.75
Total	\$53.5

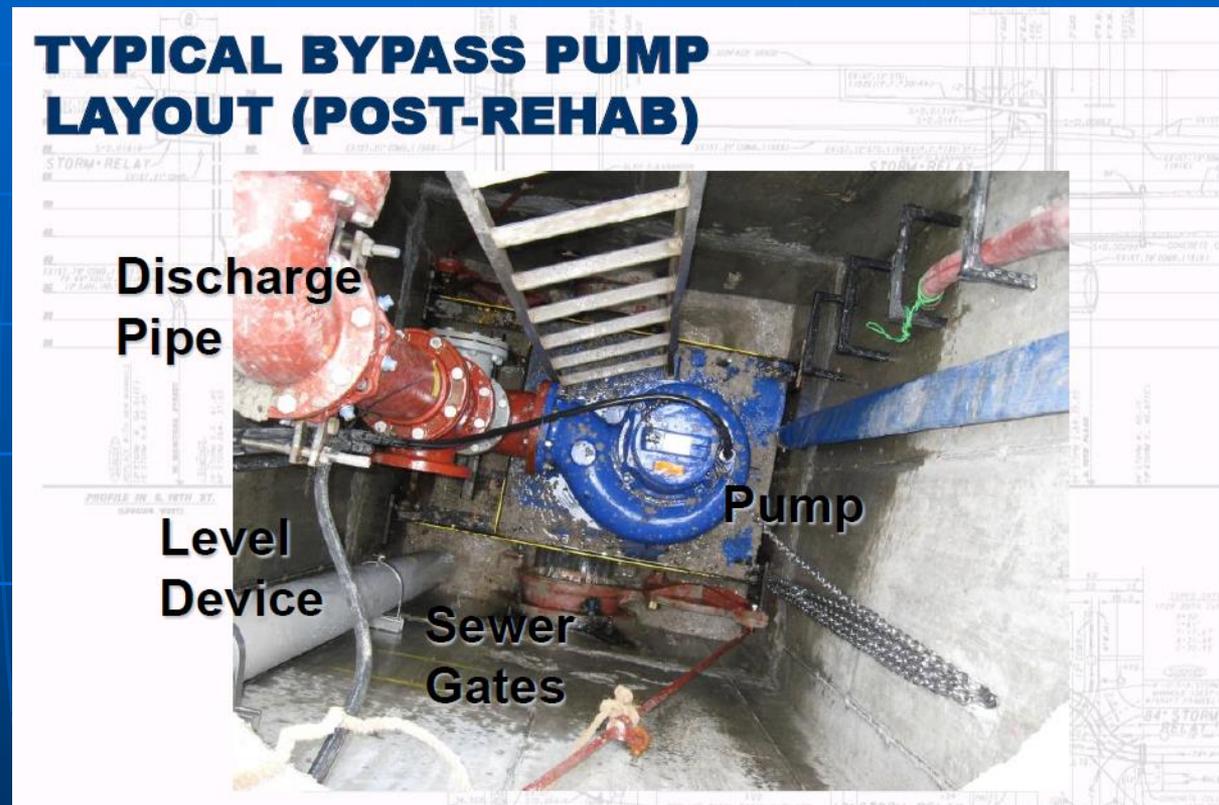


Purpose of Inflow and Infiltration (I/I) Projects

- To address higher flows in MMSD's non-compliant metersheds
- To reduce basement backups, remove unwanted clear rain water from sanitary sewers
- To reduce Sanitary Sewer Overflows (SSO)

2013-2018 Pump Rehabilitation

	Pump Rehab (million)
2013	\$0.75
2014	\$0.70
2015	\$0.70
2016	\$0.70
2017	\$0.70
2018	\$0.70
Total	\$4.25



Purpose of Pump Rehabilitation

- Flow is pumped from the sanitary sewer to a higher level sanitary sewer or a storm sewer to prevent basement backups.
- Rebuild existing pump sites, including new pump and components
- Maintain SCADA telemetry system
- Perform monthly pump checks and “load” tests at all sites

2013-2018 Water Quality Projects

	Water Quality Projects (million)
2013	\$ 0.50
2014	\$ 1.00
2015	\$ 0.50
2016	\$ 0.50
2017	\$ 0.50
2018	\$0.50
Total	\$3.50



West Grange Avenue Green Street Project

Purpose of Water Quality Projects

- Reduce Stormwater Peak Flows
- Improve Water Quality of Rivers and Lakes
- Improve Urban Aesthetics

Stormwater Studies

30th St. Corridor Regional Stormwater Study

- MMSD led study

Dineen Park Flooding Study

- MMSD, City of Milwaukee, Milwaukee County joint study
- Looking at green infrastructure opportunities in addition to traditional grey infrastructure

2013-2018 Channel Maintenance

	Channel Maintenance (million)
2013	\$0.16
2014	\$0.20
2015	\$0.20
2016	\$0.20
2017	\$0.20
2018	\$0.20
Total	\$1.16



Purpose of Channel Maintenance

- Remove large debris from channels and culverts to maintain proper drainage
- Clean sediments from channels
- Bank stabilization and outfall protection