

## AGING SEWER BREAKDOWN

( *♪♪♪♪* )  
( *helicopter* )

[Narrator] People living around San Francisco bay are getting tired of reports like this...

[news reporter] 3 million gallons of sewage spills into San Francisco Bay...

[Narrator] The bay area, from Marin County to San Mateo, is ground zero for the breakdown of infrastructure nobody likes to think about... sewers.

[Camera Operator] "You ever think about it?"

[Carl] "Only when it doesn't work"

[Delores] "Close to where I live they're redoing the sewer line, so I guess that would be an inconvenience."

[Narrator] But people throughout California are getting reminders that what's out of sight, may not stay out of mind.

[Rick Soracco] "Now this is just one kind of pipe..."

[Narrator] Across California, aging pipes, pumps and explosive growth are overwhelming and wearing out our sewers.

More than four-and-a-half million miles of sewer pipe snake beneath California. As this television camera shows, much of it is cracked, blocked by tree roots, or plugged with kitchen grease.

[Technician] "...we're going to note it as grease..."

[news reporter] "2.7 million gallons of raw and partially treated sewage overflowed from the South Marin sanitation district's waste treatment facility in Mill Valley. "

[Narrator] Between January 2007 and May of 2008 those pipes accidentally spilled more than 31-and-a-half million gallons of human waste.

California's state water resources control board and nine regional water boards enforce water quality standards.

That job includes issuing permits to more than 13-hundred sewage collection and treatment systems.

( *jackhammer* )

## AGING SEWER BREAKDOWN

The boards also help communities finance the costs of building and upgrading their sewer systems.

( *jackhammer* )

At as much as two-and-a-half million dollars per mile of pipe, the cost adds up fast.

( *tractor backing up* )

( *campy* )

[Narrator] Water is the first word in Modesto's slogan, the historic arch doesn't say anything about wastewater.

[Nick Pinhey/City of Modesto] "We definitely want growth to pay for its share of infrastructure. It would not be equitable if we were to put that new growth piece onto the existing rate paying public."

[Narrator] Nick Pinhey runs Modesto's public works department. He says the city is aggressively upgrading its aging sewers as the population grows. But even with a good plan Modesto is running all out to avoid disaster.

[Tony Souza/City of Modesto] "We got a call for a four-inch hole that was in the roadway."

[Narrator] Tony Souza is Modesto's wastewater collection supervisor. When his crew took a look down this small hole, they found big trouble.

[Tony Souza] "We actually discovered that there was about a 20-foot section that was completely gone, and the only thing really bridging this area was the asphalt itself."

[Narrator] This is a turnout for school buses loading and unloading children, as well as a school parking lot. The city ended up repairing about 400-feet of pipe, almost a block's worth of sewer.

Modesto has more than \$400 million dollars budgeted to head off trouble.

Modesto's sewer plant is constantly being upgraded, too. And it shares a problem with many other plants across the country... it's built in a flood plain. Federal Law now prohibits that.

( *factory machines* )

[James Sanders/Modesto Sewer Operator] "MID decided that they were gonna go ahead and release, and they estimated that the elevation was gonna flood up to 66 feet. Well of course , we're here at 63 feet. Everything was underwater, probably as tall as I am."

( *water flowing* )

( *water flowing* )

## AGING SEWER BREAKDOWN

[Narrator] the treatment plant in tiny Angels Camp has flooded too. But that's not the gold country town's immediate concern.

[Rick Soracco/City of Angels Camp] "Stelty out here want to puts some more houses in, and he can't."

[Narrator] picturesque Angels Camp has two stop lights and about 12,000 toilets.

*( manhole cover sliding )*

All the town's sewage reaches the treatment plant through a small network of old 12-inch pipes.

[Rick Soracco] "This is part of the line that's too small."

[Narrator] the small sewer district and it's 4500 customers are in the third phase of a 40 million dollar system upgrade. The City says the average sewer bill here is about 70 dollars a month, compared to a national average of about 24. But city engineer Gary Ghio says those old pipes still create a bottleneck that's strangling growth.

[Gary Ghio/Contractor] "the collection system in Angels Camp is approximately 50 years old and over the years of course, due to economics, there wasn't enough money to do a lot of replacements in the system."

*( ♪♪♪♪ )*  
*( seagulls )*

[Narrator] San Diego has the oldest sewer system in California. The number of people using that system has tripled in the last 45 years. Not long ago those aging pipes were spilling sewage every day.

[Ann Sasaki/City of San Diego] "In 2000, you know, we were running about 365 spills a year.

[Narrator] John Robertus is executive officer of the San Diego Regional Water Quality Control Board. He says when people in his area experience a sewer breakdown, it's at the beach. It can make them sick.

[John Robertus] "for this region, the discharges, more than 85% goes into the ocean. Bacteria going into the swimming waters at the beaches is our primary concern."

[Narrator] Finally, the San Diego Regional Water Quality Board, environmental groups and the U-S-E-P-A took the city to court. The resulting agreement requires San Diego fix the past while preparing for the future.

## AGING SEWER BREAKDOWN

[Ann Sasaki] “We have almost 3,000 miles in our system. So even though we’re doing 45 miles a year, we expect to be doing that for quite a long time into the future to catch up.”

[Narrator] San Diego cut the number of spills to 62 in 2008. But the region’s wildly varying terrain is a challenge, and the city struggles to catch up.

[Brian Drummy/City of San Diego] “We’re in a sensitive canyon area. We’re in a wet area, they’re running into a lot of saturated soil, and a lot of rocks.”

*( pumping )*

[Narrator] Like Angels Camp, San Diego’s hills and canyons require a lot of pumping, which drives up operating and maintenance costs.

*( construction work )*

The Metropolitan Waste Water District (M-W-W-D) estimates a cost of 2.4 million dollars a mile to actually dig up and replace pipe, so they try to do something else when possible.

[Brian Drummy] “What we can do is extend the life from 35 to 50 years of this pipeline by putting liner in, which is then inflated, and then cured.”

[Narrator] San Diego and other districts can cut pipe rehabilitation to \$800,000 a mile this way, and add decades to the life of a pipe. Rehabilitation also minimizes neighborhood inconvenience.

San Diego M-W-W-D handles sewage from nearly one-and-a-quarter million customers. What isn’t recycled is sent here, to Point Loma, for treatment before the cleaned water is pumped more than four-miles out to sea.

*( water flowing )*

[Narrator] Point Loma handles an average 165 million gallons of raw sewage a day. But it hit its peak of 432 million gallons during some heavy weather. Storm water flowed in through cracked pipes and leaky joints in the system, a threat state water board chair Charlie Hoppin says is facing every sewer system in California.

[Charlie Hoppin/State Water Board Chair] “We’re dealing with a very aging sewer system in the state of California. Many of the pipes are 100 years or more old, they have significant cracks in them. In times of high storm events, we have an infiltration of storm water into the sewer systems which overflows many of the sewer systems in the State. We see it up and down the State, it’s not a localized issue.”

## AGING SEWER BREAKDOWN

[Narrator] Storm Water rushing into old cracked and broken pipes is a culprit in recent big spills in San Francisco Bay, as well as the State's rivers, creeks, and streams.

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Storm Water is the next big challenge for communities and water regulators. But meantime, millions of miles of sewer pipe crumble beneath us, waiting for repair or replacement.