Pleasanton, Calif., is one of the best places to live in the United States, according to Money Magazine. As a long-time resident and fourth-term mayor, I am not surprised the city is recognized for its recreational, educational and cultural facilities, as well as a climate, that are second-to-none. Our residents are proud of the general high quality of life: a low crime rate, clean streets and stable employment – even in these times of high unemployment. We are also committed to building and maintaining state-of-the-art infrastructure – particularly the underground water and wastewater systems.

Sustainability from the Ground Up

City of Pleasanton, Calif., Explores Pipe Materials Alternatives

By Jennifer Hosterman
That is why we have embraced a non-traditional approach to pipe material selection and installation. The city enjoys several significant public benefits from doing so.

The city grew rapidly in the 1960s and 1970s, and to accommodate the growth, it was necessary to expand water and wastewater pipe systems. The city contracts for water purification and wastewater treatment services, but owns and maintains the pipe systems. Over the years, various piping materials were used. At first asbestos-cement pipe was installed, later being replaced by ductile iron. Local soil with high alkalinity and other factors, such as soil moisture and stray electrical currents from other utilities, accelerate the corrosion of buried metal infrastructure. Thus, corrosion-induced failure led to adoption of costly measures to protect the iron pipe.

Pleasanton is not alone in this respect. A 2002 Congressional study found that corrosion costs U.S. drinking water and sewer systems $50.7 billion annually. Pipe corrosion is a leading cause of over 850 daily water main breaks throughout North America.

Pleasanton’s utilities department adopted a variety of measures to deal with corrosion. Pleasanton Utilities Superintendent Dan Martin has overseen operations and maintenance of the water and wastewater pipe systems in addition to his many other utilities responsibilities. Utilities managers strive to build durable, sustainable utilities that minimize operating and maintenance costs. When rehabilitating or expanding the infrastructure with ductile iron pipe, we typically require corrosion protection based on several systems that include epoxy coatings, polyethylene sleeves and sacrificial anodes connected to the pipe.

While these protective measures have performed well, they greatly increased initial material and placement costs. As a solution to corrosion and to better control costs, Pleasanton began using corrosion-proof PVC pipe in the mid-1980s because it doesn’t need coatings, liners or other materials to ensure strength or sustainability. Martin, who reports to the mayor and city council regularly, indicates that for the past decade over 90 percent of our pipe installations have involved PVC, which now represents about one third of our water and wastewater lines.

The results have been very impressive. Cost savings are confirmed by city staff. Jim Gotcher, our city construction manager, reports that PVC pipe is about 70 percent cheaper than ductile iron. He also emphasizes that PVC’s cost-effectiveness results from various factors in addition to its relative cost advantage compared to traditional pipe materials. For example, he says that it doesn’t need the corrosion protection of ductile iron pipe, and installation is less labor intensive and can be done with lighter equipment.

This alternative pipe material performs well in the sustainability category. PVC pipe failures are extremely rare, helping to hold the line on operation and maintenance costs—which, according to a 2010 U.S. Conference of Mayors Report on Trends in Public Expenditures on Water and Wastewater, have far surpassed capital costs. Other public works information suggests that water and wastewater pipe O&M costs are increasing by 6 percent above inflation yearly (Water Infrastructure Network).

Ten years ago, we initiated programs to improve how Pleasanton manages its work, including sewer and water systems, to upgrade our services and expand opportunities for our population. Pleasanton’s demonstrated progress and outside recognition have come from being adaptive, flexible and open to better technologies such as PVC pipe, and other infrastructure materials and ways of doing city business. This is all part of good-government and smart government.

While traditional modes of doing business may be the best way, it is always fair to challenge the status quo, especially if a more efficient and sustainable approach is available. From service delivery to procurement practices it makes sense to keep an open mind from staff to council to mayor.

Jennifer Hosterman is mayor of Pleasanton, Calif., a position in which she has served since first being elected in 2004. Prior to that, she served as a Pleasanton city council member. She also serves as co-chair of the U.S. Conference of Mayors’ Water Council.