

## SAN MARCOS INTERCEPTOR PROJECT

### Project Background

The San Marcos Interceptor Project consists of replacing the District's existing 1960's era 21-inch diameter sewer interceptor with more than 12,000-feet of 42-inch diameter sewer pipeline between Twin Oaks Valley Road and Pacific Street. The Interceptor is a large trunk sewer pipeline that receives flow from District customers and conveys this wastewater by gravity to Lift Station 1 and Encina Wastewater Authority. This replacement project was originally identified in the District's 1991 Master Plan and has been phased to be completed prior to City of San Marcos (City) development of the Creek District.

The prior Phases 1 and 1A of the project have been completed, summarized as follows:

- 2002 - Portion behind the Creekside Market place from SR-78 to Grand Avenue.
- 2005 - Section from Twin Oaks Valley Road to east of Johnston Lane.
- 2013 - Grand Avenue to Via Vera Cruz.
- 2014 - East of Johnston Lane to the south side of SR-78.

Phase 2, extending from Via Vera Cruz to Pacific Street, will complete the remaining 3,400-feet of the westernmost project corridor. Planning and design began in 2013 for Phase II which required coordination with the City of San Marcos Creekside Improvement District which is developing City property adjacent to the San Marcos Creek. With advance planning and consistency with City environmental permitting, the Interceptor will be installed before the City develops around District sewer easements in San Marcos Creek. Design was finalized in early 2020 and advertised for bid in the summer of 2020.

### The Project Team

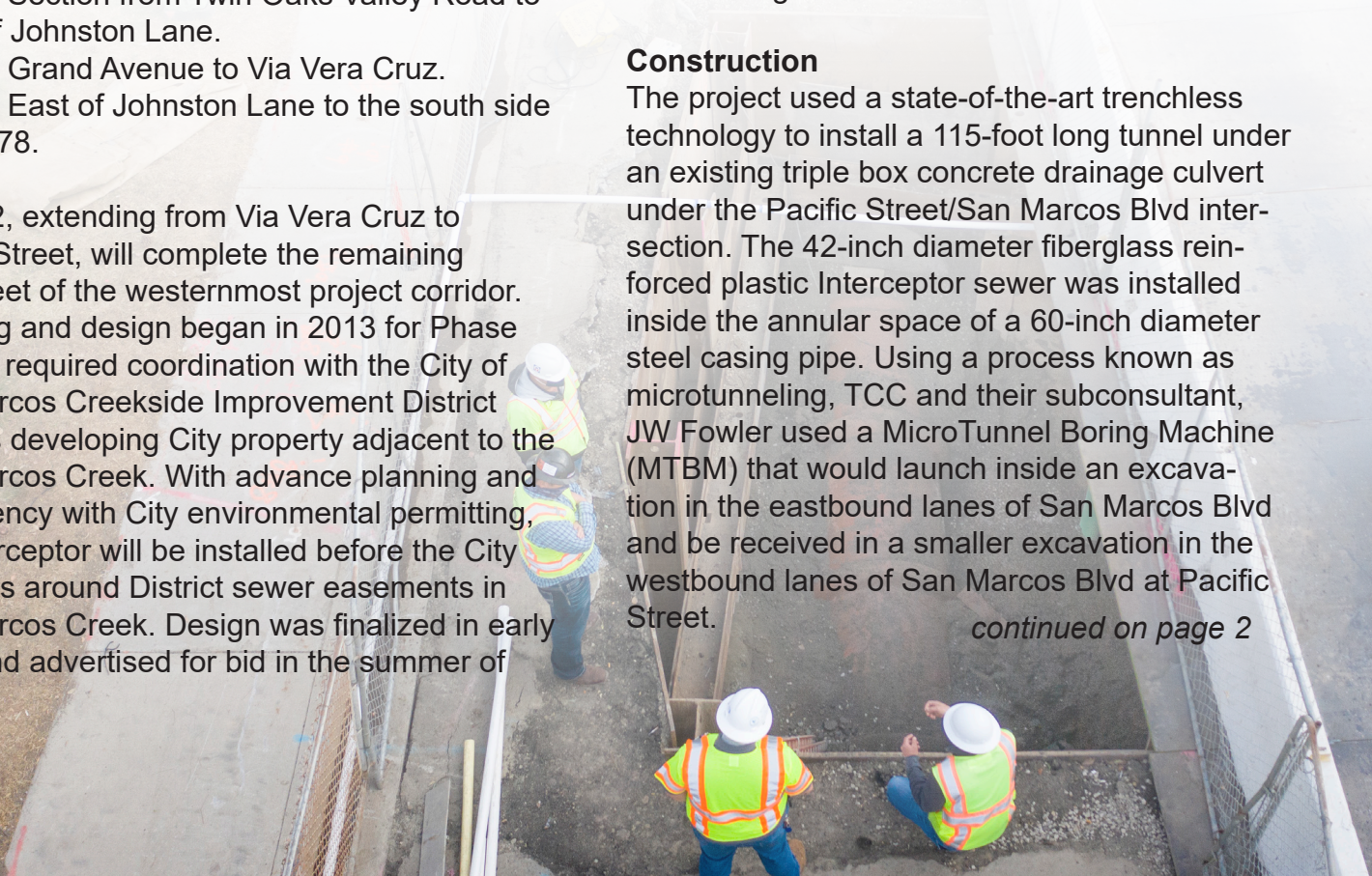
The project team consists of Kennedy/Jenks (KJ) as the design consultant and Engineer of Record, Valley Construction Management (VCM) provided construction management and inspection services, and TC Construction (TCC) was awarded the project as the prime construction contractor. District Capital Facilities and Inspection staff provided active project management services, engineering, and inspection oversight throughout construction.

The project was identified in the District's FY 20/21 Budget with an amount of \$8,500,000. The completion of Phase II of the Interceptor is 30+ years in the making with the project exchanging numerous hands in planning, design, and construction throughout that time. This is a milestone project for the District both in size and significance.

### Construction

The project used a state-of-the-art trenchless technology to install a 115-foot long tunnel under an existing triple box concrete drainage culvert under the Pacific Street/San Marcos Blvd intersection. The 42-inch diameter fiberglass reinforced plastic Interceptor sewer was installed inside the annular space of a 60-inch diameter steel casing pipe. Using a process known as microtunneling, TCC and their subconsultant, JW Fowler used a MicroTunnel Boring Machine (MTBM) that would launch inside an excavation in the eastbound lanes of San Marcos Blvd and be received in a smaller excavation in the westbound lanes of San Marcos Blvd at Pacific Street.

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The MTBM is larger than 60-inches diameter to be large enough to bore through native soils, rock and back-fill along the Interceptor alignment. Spoils are removed and the tunnel wall is pressurized internally using hydraulic fluids before the steel casing is permanently installed. The MTBM is remote controlled by an operator on the surface and is laser-guided to prevent significant deviations from the designed horizontal and vertical alignment (line and grade). The MTBM provides a high level of accuracy and can be used when groundwater is present. Line installation accuracy was critical to avoiding conflicts with existing underground wet and dry utility lines, including a 16-inch diameter high pressure SDG&E gas line. The existing underground conflicts provided a difficult target of approximately 5-feet by 5-feet which had to be hit at the receiving pit. The microtunnel installation was a 24-hour, 7-day a week process until it was completed.

The microtunnel successfully allowed the District to “thread the needle” in San Marcos Blvd and the tunnel was completed in under a week (not including excavations and MTBM setup). There was no damage to any of the existing utilities in San Marcos Blvd and traffic impacts were minimized after completion of the tunnel when both westbound travel lanes were reopened.



Microtunneling Boring Machine - Cutting Head



Existing Triple Box Concrete Culvert in San Marcos Blvd

As the Interceptor sewer construction activities in the San Marcos Creek are adjacent to the ongoing City of San Marcos Creekside Improvements construction, the project team had to coordinate and be proactive as good neighbors in construction. As part of the City’s work to build earthen levees and make improvements to the San Marcos Creek, the neighboring Interceptor project was subject to complying with the City’s Environmental permit. The project required biological and archeological monitors for work adjacent to the creek or predetermined environmental sensitive areas. Special mitigating measures and biological monitoring were required for construction during bird nesting season between February 15 and September 15 in these environmentally impacted areas. Additionally, tribal paleological monitors from Native American tribes of significance in the area were represented during excavation work in the creek.

The Interceptor construction is over 50% complete, with the work on San Marcos Blvd wrapping up and the final leg of the project about to begin in the easements adjacent to the creek between Via Vera Cruz and McMahr. Project coordination and control of the groundwater/surface water in the creek will continue to be a key issue during rain season in San Diego County. Construction completion is expected in June 2021.

## WaterSmart Landscape Contest *Looking for entries!*

To further encourage customers to reduce outdoor water use, Vallecitos participates in a regional “WaterSmart” landscape contest to award customers whose yards best exhibit the beauty of California-friendly, low-water gardening. Vallecitos’ first place winner receives a \$250 gift certificate to a local nursery and recognition at a Vallecitos Board meeting. Second and third place winners also earn gift certificates (in lesser amounts). If you’re proud of your water-wise yard, we encourage you to enter! To learn more about the contest, visit this link: <https://www.landscapecontest.com>

# Valve Maintenance Program

Just as you need to perform routine maintenance to keep your car running smoothly, water systems need regular maintenance to provide reliable service. The Vallecitos Water District's (VWD) Valve Maintenance Program ensures these vital components in its water distribution remain in good working condition throughout the District. Valves left without proper maintenance for long periods can become a serious problem, especially in an emergency water shutdown.

VWD's Construction Department manages the program. Two-person teams use maps to familiarize themselves with the location of the 4,959 valves in the system, not including fire hydrants and fire services. Critical valves serve hospitals and medical care facilities. Between 300 and 500 valves are serviced monthly, following American Water Works Association (AWWA) standards.

VWD construction worker Justin Shutt explains that valves are isolation and shutoff points for water mains along streets, "If we have a main break, where a main ruptures, we need to be able to isolate those certain sections without taking too many people out of water" by shutting the valves, said Shutt.

John Truppa, Valve Maintenance Technician, runs the maintenance program. Truppa trains crew members how to: use the truck-mounted valve exerciser machines, which provide safe, hands-free turning operation; read maps properly; and respond to customer calls. Customer service is a priority. When a customer reports a water line break, crews help with water shutoff at the meter and expedite repairs to minimize inconvenience.

VWD's geographic information system (GIS) provides a written record of valve location, condition, maintenance, and inspection records for each valve serviced.

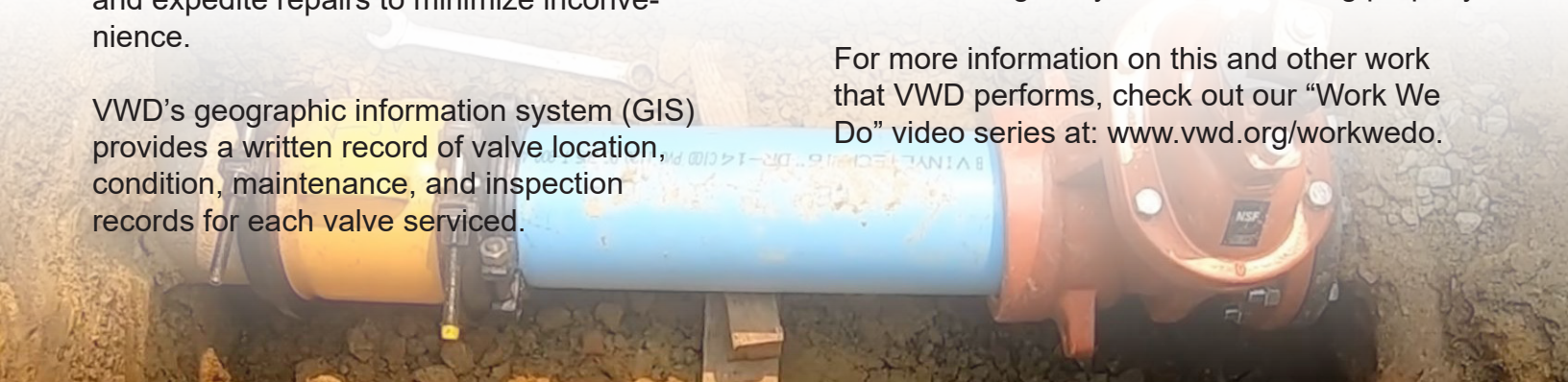


VWD monitors valve life span to replace them prior to failure. Areas prone to water main breaks and valves on mains serving large groups of customers get added attention.

Valve maintenance involves performing a prescribed number of turns to "exercise" or test the valve. Turns are calculated in part by the size of the main. Larger transmission water mains require more valve turns, both up and down. Turning speed is also important. If valves are closed too quickly, it creates "water hammer," or sudden pressure forcing water down the line, potentially triggering water main breaks.

Regular valve maintenance prevents unanticipated shutdowns of water service to customers. "We want to take as few people out of water at a time as we possibly can," said Shutt. "We keep up on the upgrades and make sure the valves are working the way they're supposed to," ensuring reliable delivery of quality water while ensuring all systems are working properly.

For more information on this and other work that VWD performs, check out our "Work We Do" video series at: [www.vwd.org/workwedo](http://www.vwd.org/workwedo).







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*Between the Pipes is a publication of information and interest to Vallecitos water and sewer customers. If you receive water or sewer services from another district, please disregard any information that does not apply to you.*

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 Rhondi Emmanuel, Administrative Services Manager  
 Ed Pedrazzi, Operations and Maintenance Manager  
 James Gumpel, District Engineer  
 Wes Owen, Finance Manager

Due to the evolving situation with the COVID-19 Novel Coronavirus and Executive Order N-29-20, VWD will hold future meetings via teleconferencing. The public is encouraged to watch or listen to the meeting from their homes and observe the meeting electronically or listen in by phone. The District’s Board meetings are held on the first and third Wednesday of each month at 5:00 p.m.

To provide public comments prior to the meeting, submit comments via e-mail at [PublicComment@VWD.org](mailto:PublicComment@VWD.org) up to 90 minutes in advance of the meeting. Comments received are handled by the Clerk of the Board of Directors as if submitted in person. All written comments that are received at least 90 minutes before the meeting will be provided to the Board, and a record of the receipt of comment will be noted during the meeting. To comment during the meeting or to watch or listen to the live meeting, go to [www.vwd.org/meetings](http://www.vwd.org/meetings).

**Postal Customer**

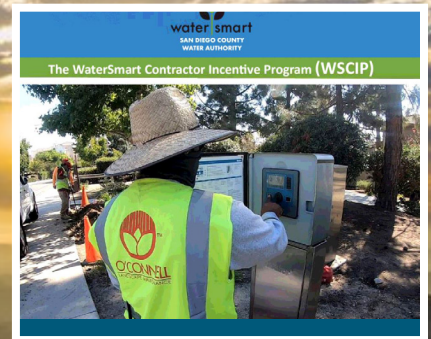
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## WaterSmart Contractor Incentive Program Benefits San Elijo Homeowners Association

The San Diego County Water Authority and the Vallecitos Water District recently worked with the San Elijo Community Association and O’Connell Landscape Maintenance to install water-efficient devices throughout its entire association property, including 2,500 stations and 50 controllers. In addition, rebates allowed O’Connell Landscape to convert spray irrigation and rotor irrigation to drip irrigation, and add flow sensors.

Van Dyke Landscape Architects and its team of certified landscape irrigation auditors assessed the irrigation system in order to make recommendations for the system upgrades. Van Dyke performed initial irrigation audits to determine what types of irrigation upgrades would benefit San Elijo’s terrain and soil types best.

“HOAs using this program can save a lot of money, and a lot more than they think.” Yale Hooper, with Van Dyke, said the teamwork among the participants with the SDCWA and Vallecitos Water District makes the program so successful. “These programs are priceless,” said Hooper. “If I were a contractor or HOA, these are ‘must do’ programs.”



Water Quality Reports can be found at [www.vwd.org/waterquality](http://www.vwd.org/waterquality).  
 Tested water from the Vallecitos Water District consistently meets or exceeds drinking water standards.