

PURISSIMA HILLS WATER DISTRICT CAPITAL IMPROVEMENT PROGRAM 2021 UPDATE



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LEGEND

AC	Asbestos Cement Pipe	GPM	Gallons Per Minute
CC	Cross Country	HP	Horse Power
CIP	Cast Iron Pipe	J	Junction
CKD	Checked	LF	Linear Feet
CM	Cconstruction Management	MG	Million Gallons
CY	Cubic Yard	NO.	Number
DIP	Ductile Iron Pipe	SFPUC	San Francisco Public Utilities Commission
DISTRICT	Purissima Hills Water District	W	Water
FT	Feet		
GAL	Gallon		



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PURISSIMA HILLS WATER DISTRICT
SANTA CLARA COUNTY, CALIFORNIA
26375 FREMONT ROAD
LOS ALTOS HILLS, CA 94022

CAPITAL IMPROVEMENT PROGRAM

TITLE SHEET

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Purissima Hills Water District
Capital Projects Summary

Priority	Project Number	Page Number	Project Name	Quantity			Construction	Planning, Design & CS	Construction Inspection	Contingency	2021 Dollars	Notes	
				LF	SRV	HYD							
UD	19-04	N/A	Seton Water Main Improvements - PROJECT LIMITS SHORTENED	1000	7	3	\$ 530,000	\$ 155,000	\$ 80,000	\$ 80,000	\$ 845,000	Increase number of fire hydrants, replace aging infrastructure with recent history of failures	
	09-02	N/A	Duval Way Water Main Improvements - PROJECT LIMITS EXTENDED	1450	10	3	\$ 747,500	\$ 150,000	\$ 80,000	\$ 97,500	\$ 1,075,000		
	14-03	N/A	Elena Road (South) Water Main Improvements	800	6	2	\$ 420,000	\$ 105,000	\$ 45,000	\$ 60,000	\$ 630,000		
	21-02	N/A	Padre Court Water Main Improvements - ADDED	400	9	1	\$ 240,000	\$ 75,000	\$ 25,000	\$ 35,000	\$ 375,000		
			Under Design (UD) Totals	3650	32	9					Subtotal (a): \$ 2,925,000		
1	14-01	3	McCann Operation Center Improvements - ADDED	-	-	-	\$ -	\$ 300,000	\$ -	\$ 30,000	\$ 330,000	Replace 50 year old, obsolete building susceptible to catastrophic damage in moderate earthquake	
	20-01	4	Fremont Road Phase 2 Water Main Improvements - MOVED	1400	9	3	\$ 720,000	\$ 145,000	\$ 70,000	\$ 95,000	\$ 1,030,000	Increase number of fire hydrants, replace aging infrastructure with recent history of failures	
2	14-02	5	Buena Vista Drive Cross Country Water Main Improvements	600	1	-	\$ 300,000	\$ 75,000	\$ 30,000	\$ 40,000	\$ 445,000	Permanently remove from service a high risk water main located in a steep canyon	
	19-01	6	West Fremont Road Water Main Improvements	4900	16	6	\$ 2,620,000	\$ 395,000	\$ 265,000	\$ 330,000	\$ 3,610,000	Increase number of fire hydrants, replace aging infrastructure with recent history of failures	
3	14-01	3	Maintenance Operation Center Improvements (Preliminary Construction Estimate) - ADDED	-	-	-	\$ 4,000,000	\$ 50,000	\$ 150,000	\$ 400,000	\$ 4,600,000	Replace 50 year old, obsolete building susceptible to catastrophic damage in moderate earthquake	
4	13-01	7	I-280 & Liddicoat Drive Resiliency Project	1600	13	3	\$ 1,510,000	\$ 225,000	\$ 150,000	\$ 185,000	\$ 2,070,000	Permanently remove from service a high risk water main located under I280	
	13-10	8	Palo Alto / Gerth Lane Interconnection Project - REINSTATED	100	-	-	\$ 800,000	\$ 160,000	\$ 80,000	\$ 100,000	\$ 1,140,000	Install a permanent intertie with the City of Palo Alto for redundancy during emergencies	
5	13-06	9	Page Mill Road Water Main Improvements	1200	4	3	\$ 725,000	\$ 145,000	\$ 75,000	\$ 95,000	\$ 1,040,000	Increase fire flows throughout Zone 4 (15% of the District) and increase operational resiliency	
	19-05	10	Sherlock Road Water Main Improvements	1000	2	3	\$ 505,000	\$ 100,000	\$ 50,000	\$ 65,000	\$ 720,000	Permanently remove from service a high risk water main located in steep hillside	
	09-01	11	Julietta Lane & Deer Springs Way Water Main Improvements	1600	5	1	\$ 760,000	\$ 155,000	\$ 75,000	\$ 100,000	\$ 1,090,000	Permanently remove from service a high risk water main located in steep hillside	
			Prioritized Totals	12400	50	19					Subtotal (b): \$ 16,075,000		
			Non-Prioritized										
	07-12	12	Elena Pump Station Improvements	-	-	-	\$ 1,200,000	\$ 180,000	\$ 120,000	\$ 150,000	\$ 1,650,000	Reduce power costs and increase redundancy by installing new pumps	
	07-13	13	Stonebrook Drive Water Main Improvements	1900	4	3	\$ 1,015,000	\$ 155,000	\$ 100,000	\$ 130,000	\$ 1,400,000	Increase fire flows through Zone 3 and number of fire hydrants	
	09-03	14	Altamont Road Zone 4 Water Main Improvements	1300	10	2	\$ 665,000	\$ 135,000	\$ 70,000	\$ 90,000	\$ 960,000	Increase number of fire hydrants, replace aging infrastructure with recent history of failures	
	11-02	15	Quarry Lake Emergency Water Supply	-	-	-	\$ 700,000	\$ 140,000	\$ 70,000	\$ 90,000	\$ 1,000,000	Provide a redundant water supply in case of catastrophic SFPUC outage	
	13-03	16	Elena Tank Foundation Improvements	-	-	-	\$ 700,000	\$ 140,000	\$ 70,000	\$ 90,000	\$ 1,000,000	Increase seismic resiliency of the District's storage tanks	
	13-05	17	Altamont Tanks Improvements	-	-	-	\$ 4,250,000	\$ 640,000	\$ 425,000	\$ 530,000	\$ 5,845,000	Increase storage in Zone 3 (50% of the District), replace an agging redwood tank	
	13-07	18	Deer Creek Pump Station Fire Suppression	-	-	-	\$ 300,000	\$ 75,000	\$ 30,000	\$ 40,000	\$ 445,000	Protect the District's largest pump station against fire damage	
	13-08	19	La Cresta Tank Cross Country Water Main Improvements	700	-	-	\$ 700,000	\$ 140,000	\$ 70,000	\$ 90,000	\$ 1,000,000	Permanently remove from service a high risk water main located in steep hillside	
	18-01	20	Hungry Horse Tank Improvements	-	-	-	\$ 1,700,000	\$ 255,000	\$ 170,000	\$ 215,000	\$ 2,340,000	Increase seismic resiliency of the District's storage tanks	
	21-01	21	I-280 (South) Water Main Abandonment - ADDED	3800			\$ 2,390,000	\$ 360,000	\$ 240,000	\$ 310,000	\$ 3,300,000	Permanently remove from service a high risk water main located under I280	
			Non-Prioritized Totals	7700	14	5					Subtotal (c): \$ 18,940,000		
											Total CIP 2021 Dollars (a+b+c) \$ 37,940,000		
			Assumptions	2020	2021						Capital Backlog	% Increase	
			Linear foot Cost for 8" DIP	\$ 450	\$ 450						2021 Capital	\$ 37,940,000	19%
			Linear foot Cost for 10" DIP	\$ 500	\$ 500						2020 Capital	\$ 31,790,000	0%
			Linear foot Cost for 12" DIP	\$ 550	\$ 550						2019 Capital	\$ 31,725,000	71%
			Cost per Service	\$ 4,500	\$ 5,000						2018 Capital	\$ 18,585,000	32%
			Cost per Hydrant	\$ 15,000	\$ 15,000						2016 Capital	\$ 14,105,000	22%
											2014 Capital	\$ 11,518,000	15%
											2013 Capital	\$ 10,040,000	37%
											2011 Capital	\$ 7,355,000	



BACKGROUND AERIAL IMAGERY PROVIDED BY Google Earth Pro, REPRODUCED BY PERMISSION GRANTED BY Google Earth™ MAPPING SERVICE. AERIAL IMAGE ATTRIBUTE INFORMATION: © 2014 Google US CENSUS BUREAU.

McCANN OPERATION CENTER IMPROVEMENTS

PROJECT BACKGROUND

The McCann Operation Center Building, a 2,500 SF single-story, wood-framed building, constructed in 1970, is located at 26451 Ascension Drive. The building houses District maintenance staff, parts inventory and vehicles. In 2013, the District retained a structural engineer to complete a general structural conditional and seismic assessment of the building. The engineer performed an ASCE 31 Tier 1 seismic evaluation using the Life Safety performance level. The engineer evaluated the building for Basic Structural (Sec. 3.7), Supplemental Structural (Sec. 3.7) and Geologic Site Hazard and Foundation (Sec. 3.8) checklists.

The evaluation concluded the building does not meet full compliance for ASCE 31 Tier 1 Life Safety performance criteria. The evaluation concluded the building will perform below average in comparison to buildings of similar construction when subjected to a design-level earthquake. Due to the buildings importance in everyday District operations, the District designated it as an essential facility ($I=1.5$), capable of being operational after a major seismic event. A space needs and conceptual design was completed in 2021.

PROPOSED IMPROVEMENTS

With the knowledge the building requires improvements, this project hires an architect to provide preliminary design and optimal layout of the work area.

PROJECT BENEFITS

The McCann Operation Center Improvements ensures the building is operational after a major seismic event.

PROJECT BUDGET (2021)

Design	\$ 300,000
Contingency ($\pm 10\%$)	\$ 30,000
Project Budget	\$ 330,000



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CAPITAL IMPROVEMENT PROGRAM
McCANN OPERATION CENTER IMPROVEMENTS
PROJECT 14-01

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FREMONT ROAD PHASE 2 WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing water main along Fremont Road consists of 1,400 LF of 8" Cast Iron Pipe (CIP). This water main was installed in the late 1950's and the District has experienced extensive leaks over the years along this stretch of water main with substantial damage to residential property. This project replaces the existing CIP water main with new 8" Ductile Iron Pipe (DIP) along Fremont Road between Manuella Lane and Campo Vista Lane

PROPOSED IMPROVEMENTS

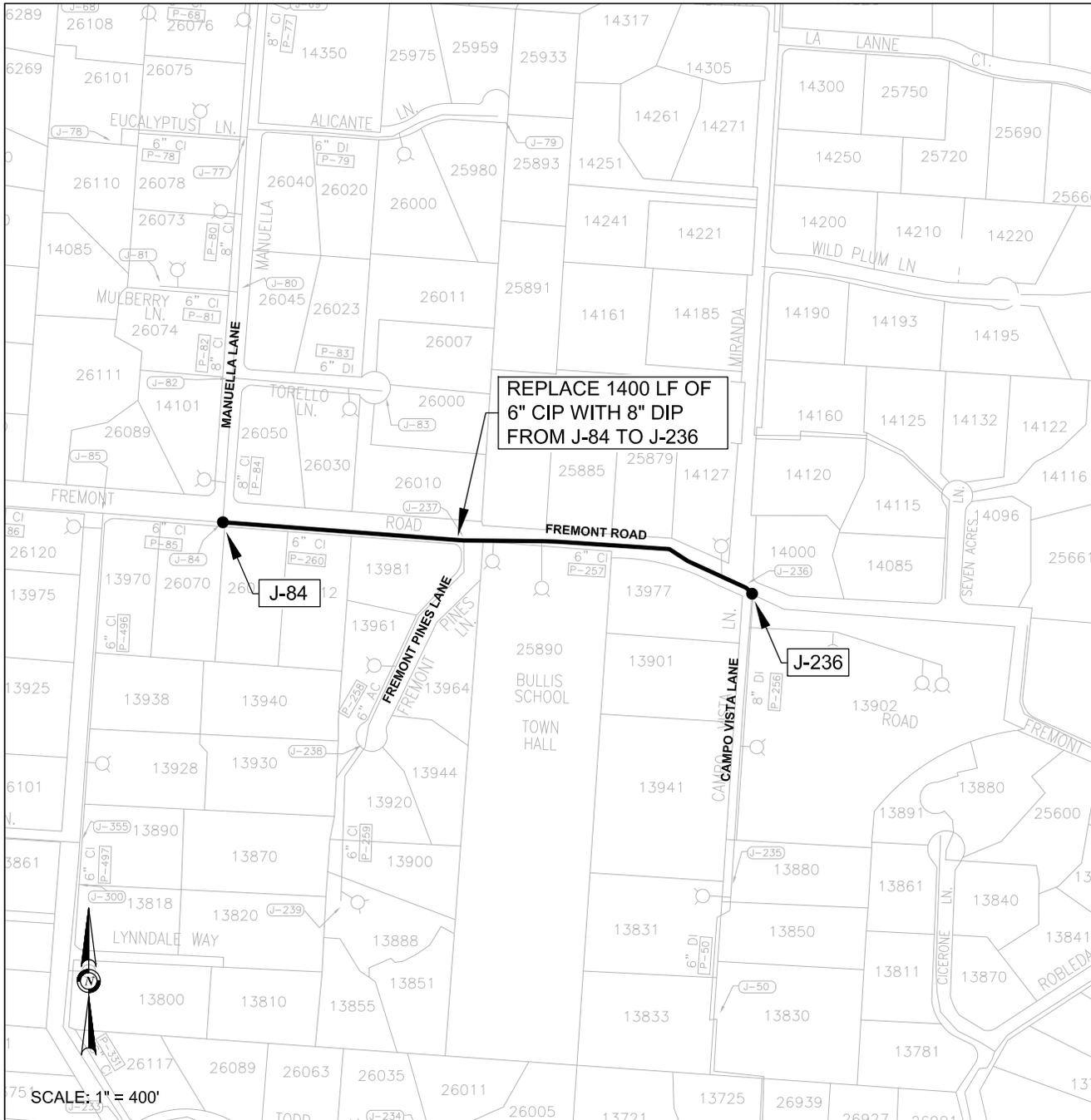
Replace 1,400 LF of 6" CIP with 8" DIP
 Replace 3 fire hydrants
 Replace 9 service connections

PROJECT BENEFITS

The Fremont Road Phase 2 Water Main Improvements replaces old infrastructure, with a history of extensive leaks, with new water main.

PROJECT BUDGET (2021)

8" DIP - 1,400 LF @ \$450/LF	\$ 630,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 9 @ \$5,000/EA	\$ 45,000
Subtotal Construction	\$ 720,000
Planning, Design, & Construction Support	\$ 145,000
Construction Inspection	\$ 70,000
Contingency (±10%)	\$ 95,000
Project Budget	\$ 1,030,000



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CAPITAL IMPROVEMENT PROGRAM
FREMONT ROAD PHASE 2 WATER MAIN IMPROVEMENTS
PROJECT 20-01

BUENA VISTA DRIVE CROSS COUNTRY WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

In 2013 a 50 year old 600 LF 6" Cast Iron Pipe (CIP) cross country (CC) water main between Buena Vista Drive and Sherlock Road experienced a catastrophic leak. This water main is located in a steep, hard to access canyon, in the middle of Zone 4. Several different scenarios were analyzed during project development including rehabilitation, replacement, or complete abandonment of this water main. Hydraulic modeling determined it could be abandoned with minimal impact to water quality and fire flows in the area.

This project includes the CC abandonment and installing 600 LF of 8" Ductile Iron Pipe (DIP) in a driveway beginning at 27863 Moody Road (J-XXX) to J-854. With this improvement, fire flows in the vicinity of Sherlock Road are equal to or exceed existing conditions. The fire flows on Buena Vista Drive after the CC abandonment are reduced by approximately 75 gpm (8%) at Nodes J-807 and J-468. The cost of replacing the water main on Buena Vista Drive with an 8" DIP to maintain fire flows is approximately \$300,000. The high cost of replacing the water main on Buena Vista Drive is restrictive given the the minor reduction in fire flows. The project requires easement acquisition for the new water main. Distribution System Analysis No. 274

PROPOSED IMPROVEMENTS

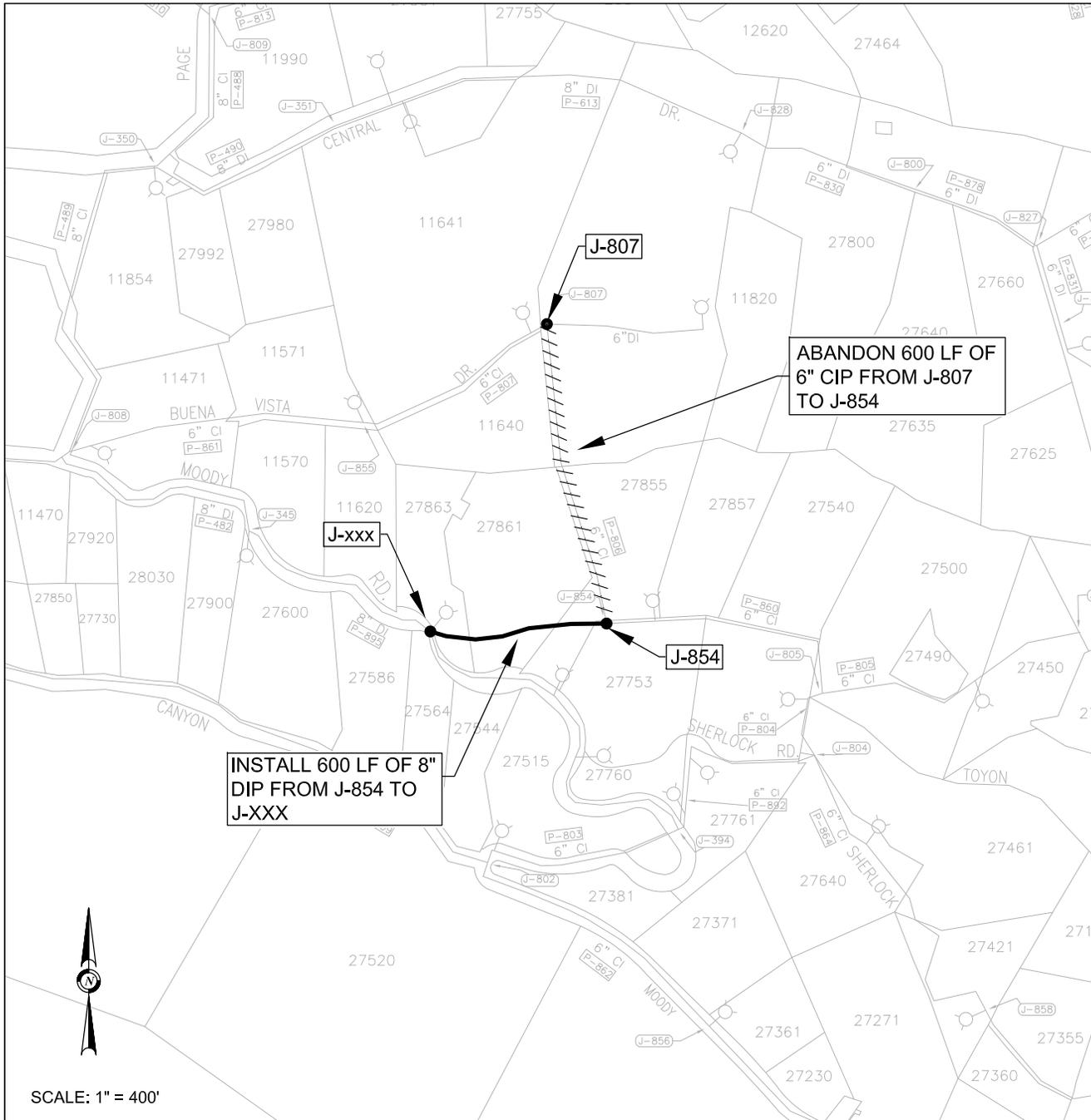
- Abandon 600 LF of CC 6" CIP
- Install 600 LF of 8" DIP
- Replace 1 service connection

PROJECT BENEFITS

The Buena Vista Drive Cross Country Water Main Improvements abandons a high risk CC water main while maintaining similar fire flows in the area.

PROJECT BUDGET (2021)

8" DIP - 600 LF @ \$450/LF	\$ 270,000
Service Connections - 1 @ \$5,000/EA	\$ 5,000
Subtotal Construction	\$ 275,000
Easement Acquisition	\$ 25,000
Planning, Design, & Construction Support	\$ 75,000
Construction Inspection	\$ 30,000
Contingency (±10%)	\$ 40,000
Project Budget	\$ 445,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
BUENA VISTA DRIVE CC WATER MAIN IMPROVEMENTS
PROJECT 14-02

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WEST FREMONT ROAD WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing water mains along West Fremont Road consist of 4,200 LF 10" Cast Iron Pipe (CIP) and 700 LF of 8" CIP. These water mains were installed in the late 1950's with the District experiencing extensive leaks over the years with a recent leak causing substantial damage to residential property. This project replaces the existing CIP water mains with new 8" or 10" Ductile Iron Pipe (DIP) along West Fremont Road between Arastradero Road and the Fremont Road/Concepcion Road intersection (District office location). Future hydraulic modeling will determine the final size of the water main.

PROPOSED IMPROVEMENTS

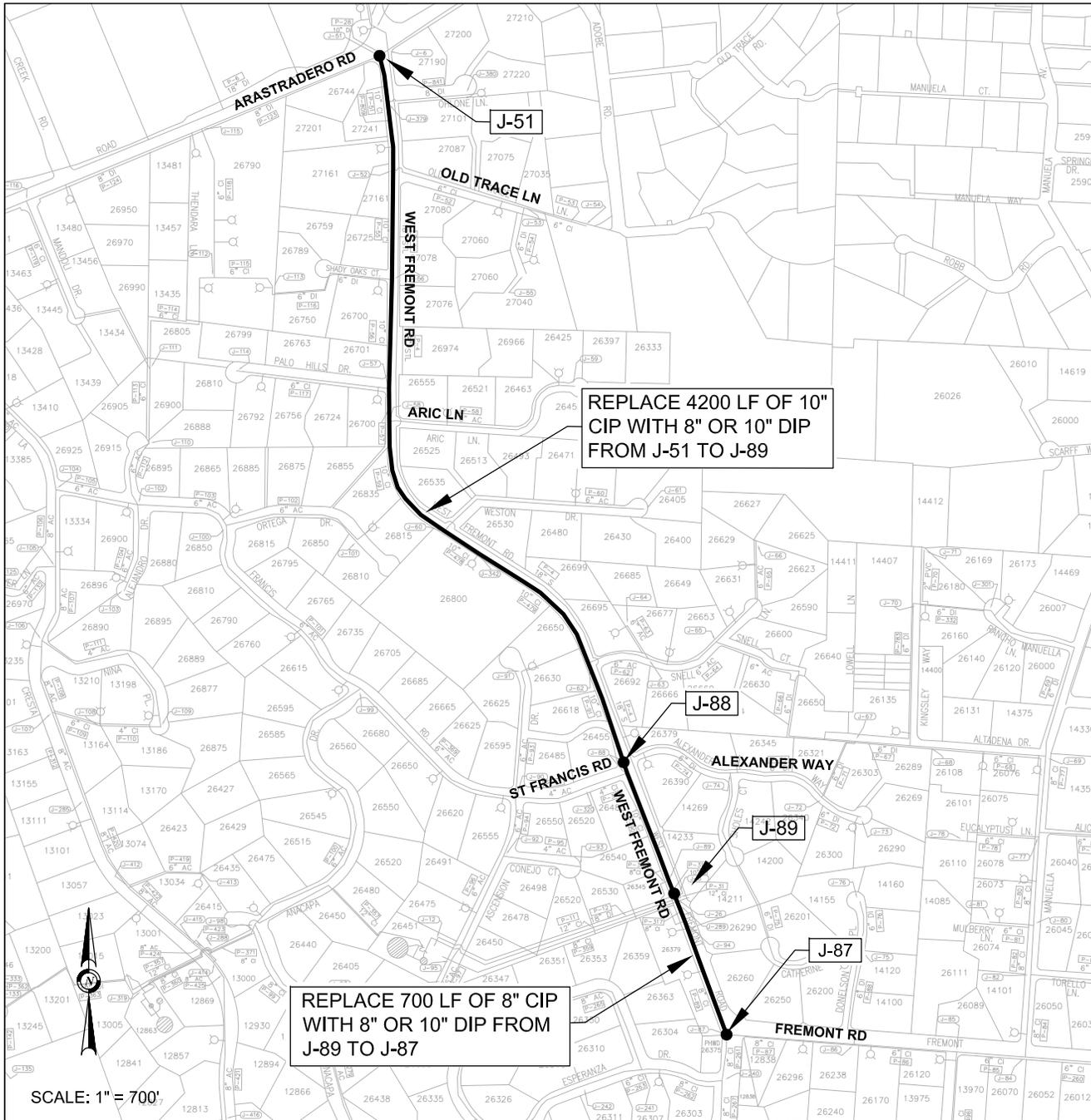
- Replace 4,900 LF of 8" and 10" CIP with 10" or 8" DIP
- Replace 6 fire hydrants
- Replace 16 service connections

PROJECT BENEFITS

The West Fremont Road Water Main Improvements replaces old infrastructure, with a history of extensive leaks, with new water main.

PROJECT BUDGET (2021)

10" DIP - 4,900 LF @ \$500/LF	\$ 2,450,000
Fire Hydrants - 6 @ \$15,000/EA	\$ 90,000
Service Connections - 16 @ \$5,000/EA	\$ 80,000
Subtotal Construction	\$ 2,620,000
Planning, Design, & Construction Support	\$ 395,000
Construction Inspection	\$ 265,000
Contingency (±10%)	\$ 330,000
Project Budget	\$ 3,610,000



SCALE: 1" = 700'



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CAPITAL IMPROVEMENT PROGRAM
WEST FREMONT ROAD WATER MAIN IMPROVEMENTS
PROJECT 19-01

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I-280 & LIDDICOAT DRIVE RESILIENCY PROJECT

PROJECT BACKGROUND

The existing 6" Cast Iron Pipe (CIP) cross country (CC) water main (A) crossing under I-280 from Christophers Ln to the Liddicoat Subdivision (Subdivision) was constructed in the late 1960's as part of the original interstate construction. Should this water main fail, it could lead to significant freeway damage. The District investigated removing this water main from service and without upgrades throughout the Subdivision, the fire flows in the area would be significantly reduced. Currently, the Subdivision consists of 6" CIP and 6" Asbestos Cement Pipe (ACP) throughout with 3 water mains feeding into it: A) 1,000 LF of CC 6" CIP from the north (I-280 under-crossing), B) 600 LF of 6" CC ACP from the south (between Arastradero Rd and Stanford Ct) which runs through multiple properties, and C) 300 LF of 6" ACP, also from the south, along Liddicoat Dr. To improve resiliency throughout the Subdivision, both CC water mains (A and B) will be removed from service due to their proximity to residences and potential significant freeway damage. To alleviate fire flow impacts within the Subdivision, 1,300 LF of 6" ACP along Liddicoat Dr. will be replaced with 12" Ductile Iron Pipe (DIP). As-Built drawings for the I-280 crossing (A) show a 16" steel casing around the 6" CIP with no indication of having cathodic protection. Distribution System Analysis No. 197

PROPOSED IMPROVEMENTS

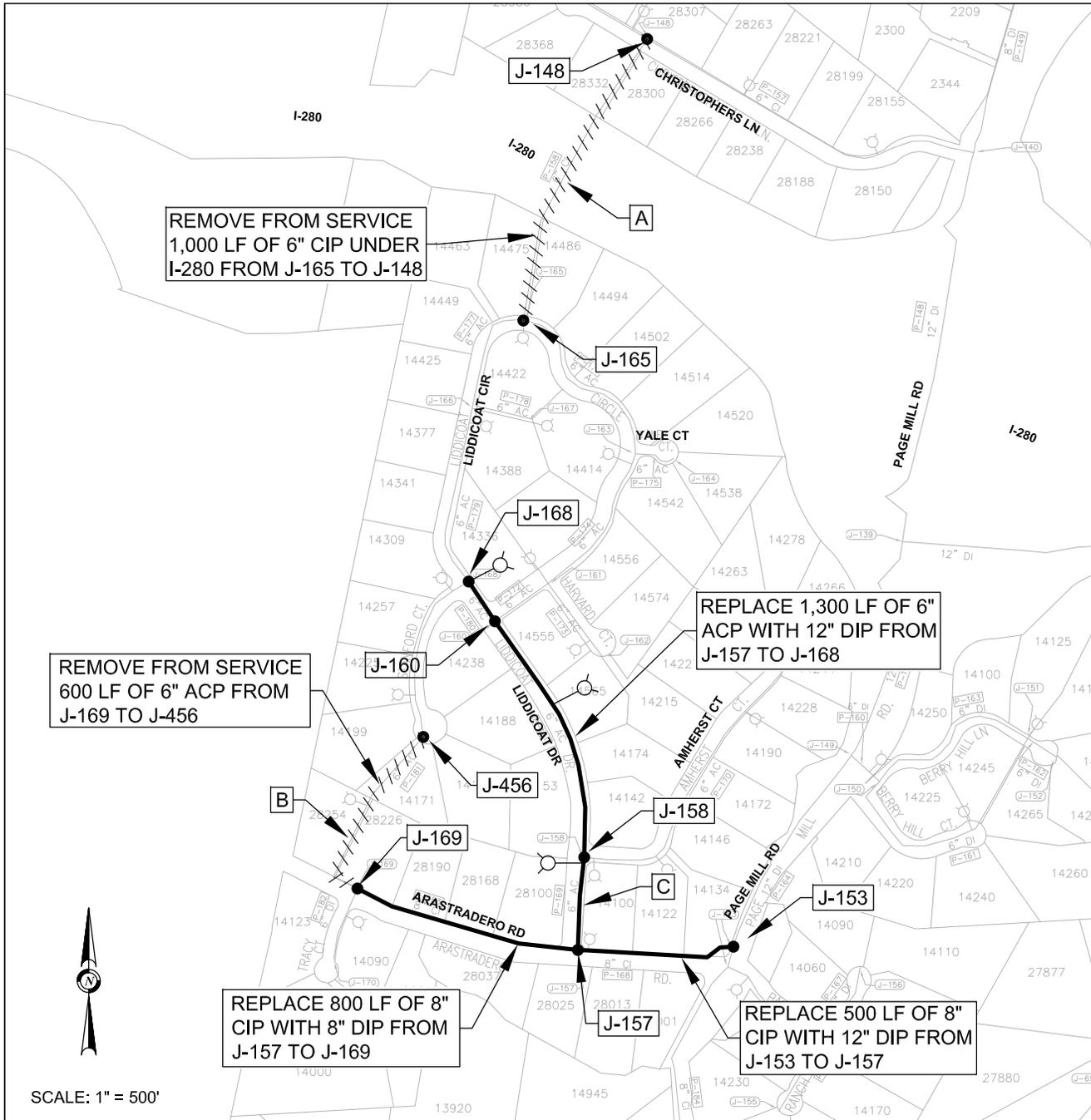
Remove from service 1,600 LF of 6" CC ACP/CIP
 Replace 1,300 LF of 6" ACP and 500 LF of 6" CIP with 12" DIP
 Replace 800 LF of 8" CIP with 8" DIP
 Replace 3 fire hydrants
 Replace 13 service connections

PROJECT BENEFITS

The I-280 & Liddicoat Dr Resiliency Project improves resiliency of the area by removing from service 2 CC water mains. Leaks or failures along these water mains could possibly cause catastrophic damage to both I-280 and residential properties. There will be minimal impact to fire flows and water age within the Subdivision.

PROJECT BUDGET (2021)

8" DIP - 800 LF @ \$450/LF	\$ 360,000
12" DIP - 1,800 LF @ \$550/LF	\$ 990,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 13 @ \$5,000/EA	\$ 65,000
I-280 CC (A) Removal from Service	\$ 50,000
Subtotal Construction	\$ 1,510,000
Planning, Design, & Construction Support	\$ 225,000
Construction Inspection	\$ 150,000
Contingency (±10%)	\$ 185,000
Project Budget	\$ 2,070,000



REMOVE FROM SERVICE
1,000 LF OF 6" CIP UNDER
I-280 FROM J-165 TO J-148

REMOVE FROM SERVICE
600 LF OF 6" ACP FROM
J-169 TO J-456

REPLACE 1,300 LF OF 6"
ACP WITH 12" DIP FROM
J-157 TO J-168

REPLACE 800 LF OF 8"
CIP WITH 8" DIP FROM
J-157 TO J-169

REPLACE 500 LF OF 8"
CIP WITH 12" DIP FROM
J-153 TO J-157

SCALE: 1" = 500'



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CAPITAL IMPROVEMENT PROGRAM
I-280 & LIDDICOAT DRIVE RESILIENCY PROJECT
PROJECT 13-01

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PALO ALTO / GERTH LANE INTERCONNECTION PROJECT

PROJECT BACKGROUND

The District is evaluating a third intertie with the City of Palo Alto in the Vicinity of Gerth Lane and Page Mill Road, where the two agency mains are adjacent. The District and City of Palo Alto currently have two interties, one along Page Mill Road beside Page Mill Tank serving Zone 4 and one on Arastradero Road serving Zone 2. The area in the vicinity Gerth Lane is the most northerly subdivision served by the District and the intertie could provide an additional water source to Zone 2 providing system redundancy in case of an SFPUC emergency outage. The City of Palo Alto maintains a pressure of 150-160 psi at this location and the District's pressure is approximately 130 psi. Due to the pressure differential the intertie will most likely be one way (from City of Palo Alto to the District).

PROPOSED IMPROVEMENTS

Install 100 LF of 12" DIP

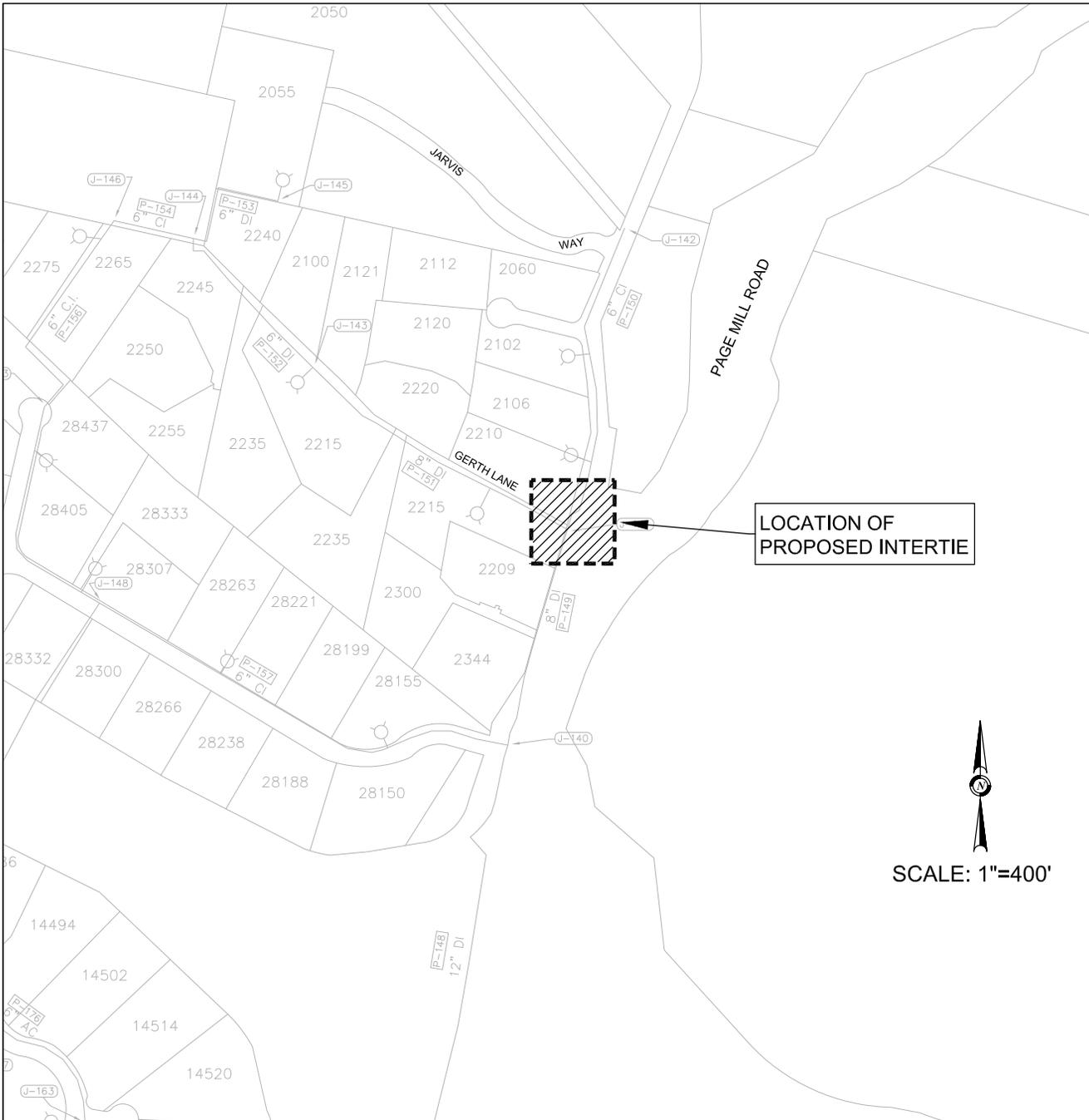
A metered connection with the City of Palo Alto

PROJECT BENEFITS

The Palo Alto / Gerth Lane Interconnection Project will benefit District's customers by allowing water to be available from the City of Palo Alto during an emergency outage. There is a moderate increase in fire protection upon completion of this project.

PROJECT BUDGET (2021)

12" DIP - 100 LF @ \$550/LF	\$ 550,000
Meter, PRV, Backflow Vault	\$ 250,000
Subtotal Construction	\$ 800,000
Planning, Design, & Construction Support	\$ 160,000
Construction Inspection	\$ 80,000
Contingency (±10%)	\$ 100,000
Project Budget	\$ 1,140,000



LOCATION OF
PROPOSED INTERTIE



SCALE: 1"=400'



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CAPITAL IMPROVEMENT PROGRAM
PALO ALTO / GERTH LANE INTERCONNECTION PROJECT
PROJECT 13-10

PAGE MILL ROAD WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

An existing 1,500 LF 6" Cast Iron Pipe (CIP) cross country (CC) water main exists between Page Mill Road (J-801) and Canyon Road (J-XXX). This water main is located in mountainous, hard to access, cross country terrain, with homes located below on Canyon Road. Any leaks on this water main may cause severe hillside and property damage. To maintain existing fire flow's throughout Zone 4 upon abandonment of this water main, 1,200 LF of 8" CIP along Page Mill Road will be replaced with 12" Ductile Iron Pipe (DIP). Distribution System Analysis No. 254

PROPOSED IMPROVEMENTS

Abandon 1,500 LF of 6" CIP
 Replace 1,200 LF of 8" CIP with 12" DIP
 Replace 3 fire hydrants
 Replace 4 service connections

PROJECT BENEFITS

The Page Mill Road Water Main Improvements abandons a high risk CC water main and slightly increase fire protection in the area.

PROJECT BUDGET (2021)

12" DIP - 1,200 LF @ \$550/LF	\$ 660,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 4 @ \$5,000/EA	\$ 20,000
Subtotal Construction	\$ 725,000
Planning, Design, & Construction Support	\$ 145,000
Construction Inspection	\$ 75,000
Contingency (±10%)	\$ 95,000
Project Budget	\$ 1,040,000

REPLACE 1,200 LF OF 8"
CIP WITH 12" DIP FROM
J-367 TO J-808

J-367

PAGE MILL RD

J-808

J-801

12" DI

8" CI

11240

11240

11270

11370

11400

11470

27920

28030

27850

27730

27900

27600

8" DI

11620

278

11150

11100

10920

27586

275

6" CI

27520

ABANDON 1,500 LF OF 6"
CIP FROM J-801 TO J-XXX

J-XXX

CANYON RD



SCALE: 1" = 400'



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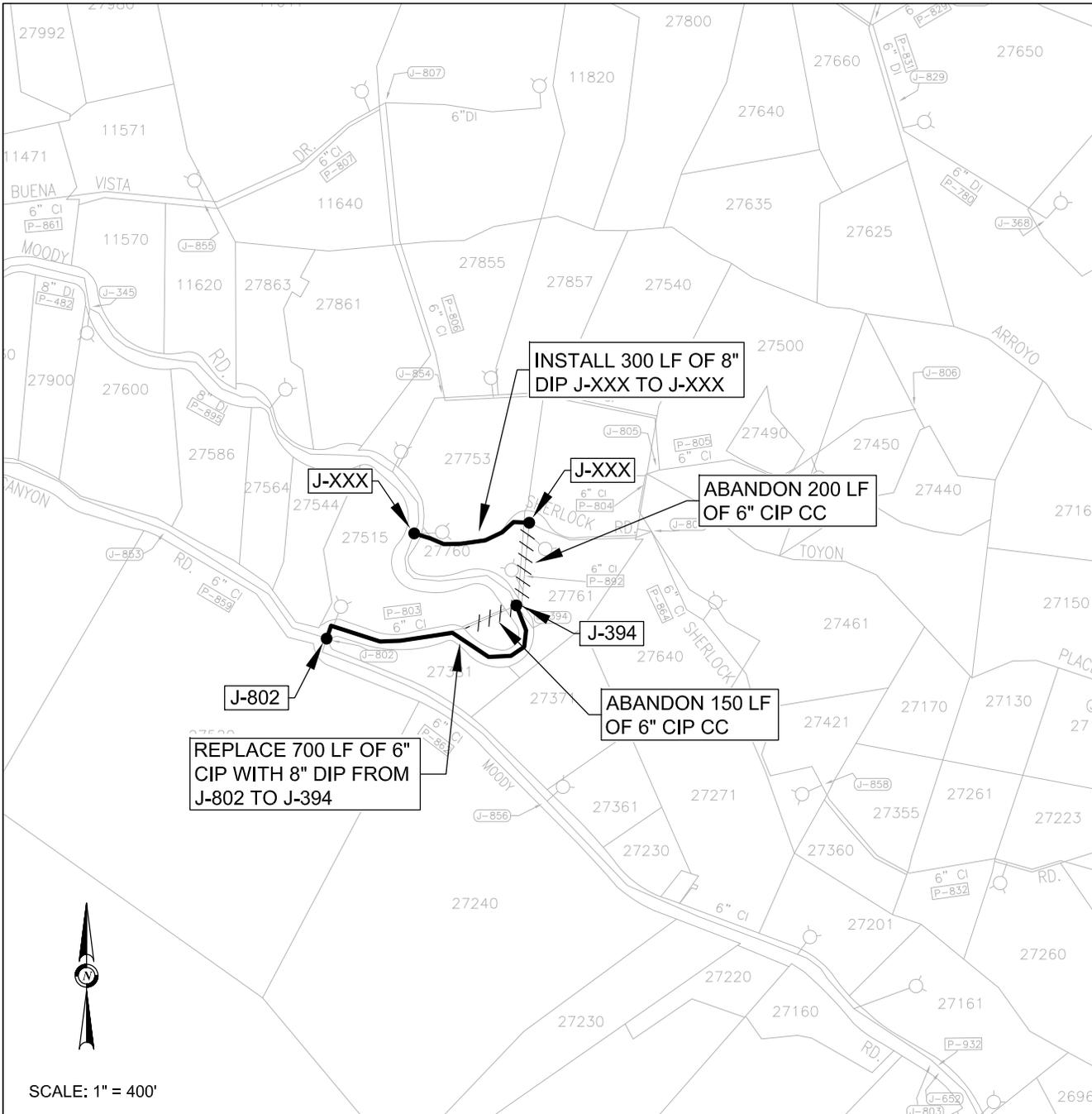
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PURISSIMA HILLS WATER DISTRICT
 SANTA CLARA COUNTY, CALIFORNIA
 26375 FREMONT ROAD
 LOS ALTOS HILLS, CA 94022

CAPITAL IMPROVEMENT PROGRAM
PAGE MILL ROAD WATER MAIN IMPROVEMENTS
 PROJECT 13-06

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SHERLOCK ROAD WATER MAIN IMPROVEMENTS

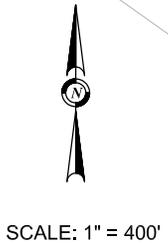
PROJECT BACKGROUND
 The Sherlock Road area is served water through various cross country (CC) alignments from Buena Vista Drive to the north, Moody Road to the southwest, and Moody Court to the east. To keep with the District's goal of relocating CC water mains to accessible locations, in addition to better preventing leaks from damaging adjacent homes, this project relocates the Moody Road CC portions, approximately 350 LF of 6" Cast Iron Pipe (CIP) directly onto Moody Road and Sherlock Road. This project involves installing 300 LF of new 8" Ductile Iron Pipe (DIP) on Sherlock Road in addition to replacing 700 LF of 6" CIP with 8" DIP on Moody Road.

PROPOSED IMPROVEMENTS
 Abandon 300 LF of 6" CIP CC
 Replace 700 LF of 6" CIP with 8" DIP
 Install 300 LF of new 8" DIP
 Replace 3 fire hydrants
 Replace 2 service connections

PROJECT BENEFITS
 The Sherlock Road Water Main Improvements relocates existing CC water mains to accessible locations in an effort to improve maintenance capabilities and better protect homes against potential water main breaks.

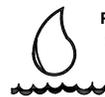
PROJECT BUDGET (2021)

8" DIP - 1,000 LF @ \$450/LF	\$ 450,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 2 @ \$5,000/EA	\$ 10,000
Subtotal Construction	\$ 505,000
Planning, Design, & Construction Support	\$ 100,000
Construction Inspection	\$ 50,000
Contingency (±10%)	\$ 65,000
Project Budget	\$ 720,000




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CAPITAL IMPROVEMENT PROGRAM
SHERLOCK ROAD WATER MAIN IMPROVEMENTS
 PROJECT 19-05

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 PLOT DATE: 06-02-21 PLOTTED BY: BL/auk

JULIETTA LANE & DEER SPRINGS WAY WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing 800 LF 8" Cast Iron Pipe (CIP) cross country (CC) water main between fire hydrants 31.40 (end of Deer Springs Way) and 32.40 (end of Julietta Lane) was taken out of service due to several leaks in 2008. This project reinstates the water main in this location by installing a new 8" Ductile Iron Pipe (DIP). In addition, this project will install approximately 500 LF of 8" DIP to reconnect Chaparral Way, and install approximately 300 LF of 6" DIP to relocate Fire Hydrant 32.40 at the end of Julietta Lane. This project is consistent with District goals to replace older CIP water mains with DIP water mains to accessible locations. Distribution System Analysis No. 164

PROPOSED IMPROVEMENTS

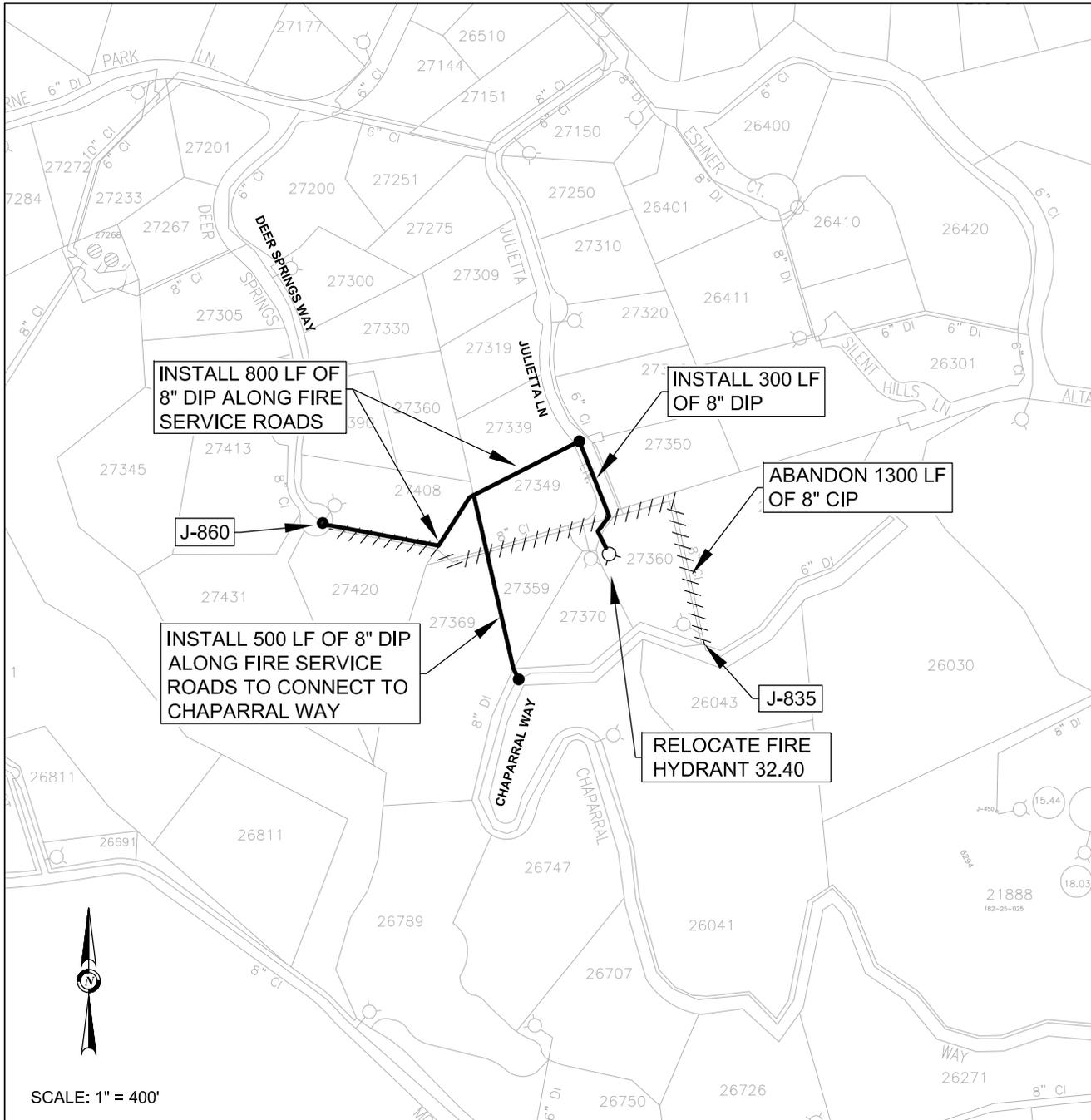
Abandon 1,300 LF of 8" CIP
 Install 1,600 LF of 8" DIP
 Replace 1 fire hydrant
 Replace 5 service connections

PROJECT BENEFITS

The Julietta Lane & Deer Springs Way Water Main Improvements will replace old infrastructure and moderately improve fire flows in the area.

PROJECT BUDGET (2021)

8" DIP - 1,600 LF @ \$450/LF	\$ 720,000
Fire Hydrants - 1 @ \$15,000/EA	\$ 15,000
Service Connections - 5 @ \$5,000/EA	\$ 25,000
Subtotal Construction	\$ 760,000
Planning, Design, & Construction Support	\$ 155,000
Construction Inspection	\$ 75,000
Contingency (±10%)	\$ 100,000
Project Budget	\$ 1,090,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
JULIETTA LANE & DEER SPRINGS WAY WM IMPROVEMENTS
 PROJECT 09-01

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ELENA PUMP STATION IMPROVEMENTS

PROJECT BACKGROUND

The Elena Tank and Pump Station is located directly in the middle of the District making it an ideal location to move water from Zone 2 to Zone 3. The potential of purchasing or transferring water from/to Cal Water at the Robleda Road and Alta Tierra inter-tie increases the critical nature of the Elena Tank and Pump Station in the storage and distribution of this water. The Elena Pump Station was originally designed to house three Zone 3 pumps, with two operating simultaneously. Currently there is only one Zone 3 pump at the pump station. This project installs two new 1,000 gpm Zone 3 pumps, replaces of the existing wood pump building with a new larger masonry building, and installs an fire suppression system.

PROPOSED IMPROVEMENTS

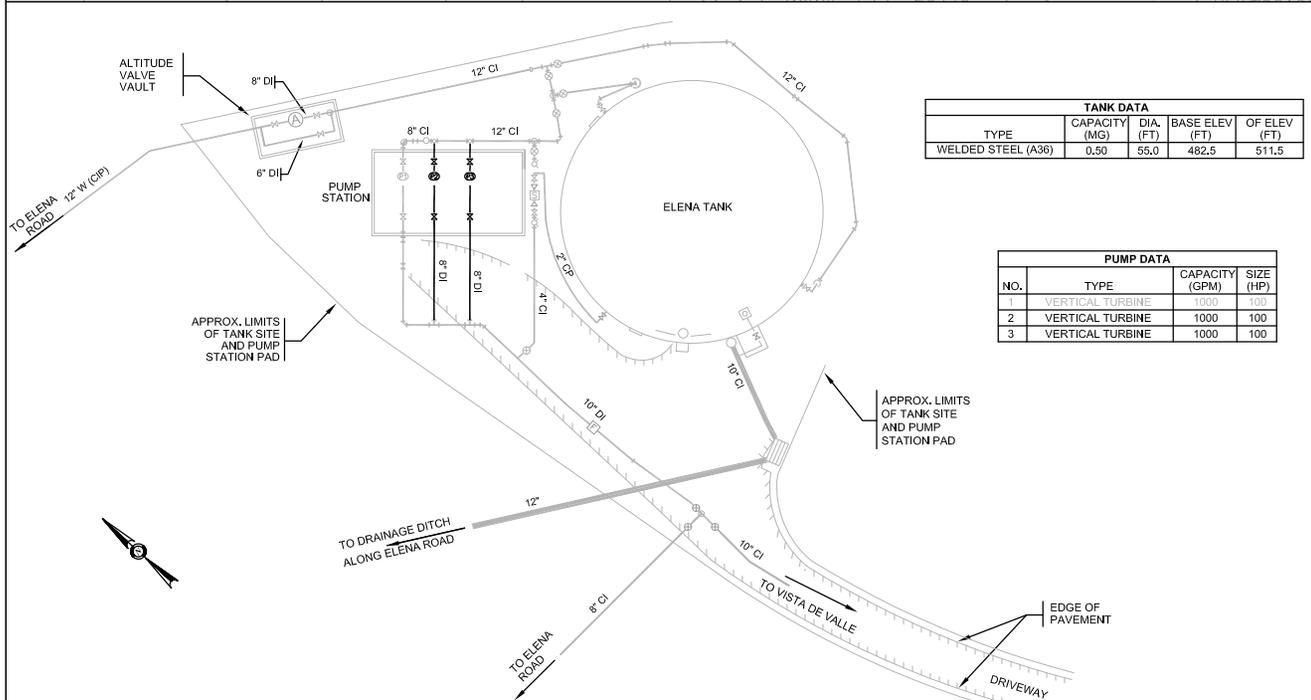
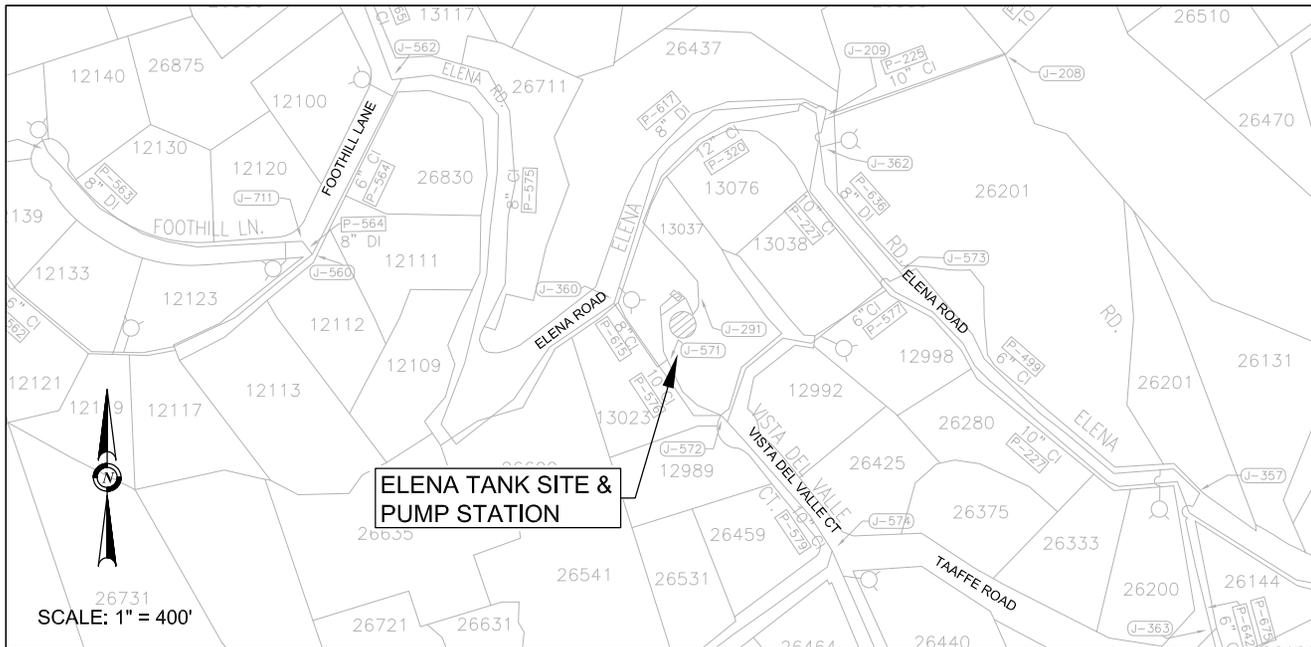
- Install new pump manifold
- Install 2 new Zone 3 pumps and controls
- Install new pump barrels
- Construct a new building with fire suppression system

PROJECT BENEFITS

The Elena Pump Station Improvements will maximize the pump stations efficiency in moving water from Zone 2 to Zone 3, improves building resiliency against potential earthquakes/fire, and increase fire protection reliability.

PROJECT BUDGET (2021)

Pump Manifold	\$ 200,000
2 Pumps and Controls	\$ 500,000
Pump Barrels	\$ 100,000
Pump Station Building	\$ 400,000
Subtotal Construction	\$ 1,200,000
Planning, Design, & Construction Support	\$ 180,000
Construction Inspection	\$ 120,000
Contingency (±10%)	\$ 150,000
Project Budget	\$ 1,650,000



TANK DATA				
TYPE	CAPACITY (MG)	DIA. (FT)	BASE ELEV. (FT)	OF ELEV. (FT)
WELDED STEEL (A36)	0.50	55.0	482.5	511.5

PUMP DATA			
NO.	TYPE	CAPACITY (GPM)	SIZE (HP)
1	VERTICAL TURBINE	1000	100
2	VERTICAL TURBINE	1000	100
3	VERTICAL TURBINE	1000	100



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CAPITAL IMPROVEMENT PROGRAM
ELENA PUMP STATION PUMP IMPROVEMENTS
PROJECT 07-12

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STONEBROOK DRIVE WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

In 1999, as part of the Quarry Hills Subdivision, the developer installed approximately 6,100 LF of 10" Ductile Iron Pipe (DIP) from the Neary Tank Driveway on La Loma Drive to Prospect Avenue. In 2001, Foothill College District requested additional flows from the District as part of its overall campus improvements. In 2004, the District and Foothill College installed approximately 7,000 LF of 10" DIP along Adobe Lane, Pricilla Lane, El Monte Road and through Foothill College. This project will join the 1999 and 2004 projects and replace 1,300 LF of 6" DIP with 10" DIP along with installing 600 LF of new 10" DIP to complete the connection. This project greatly increases available pressures and flows on the campus and surrounding neighborhoods along with increasing Neary Tank utilization. Distribution System Analysis No. 82

PROPOSED IMPROVEMENTS

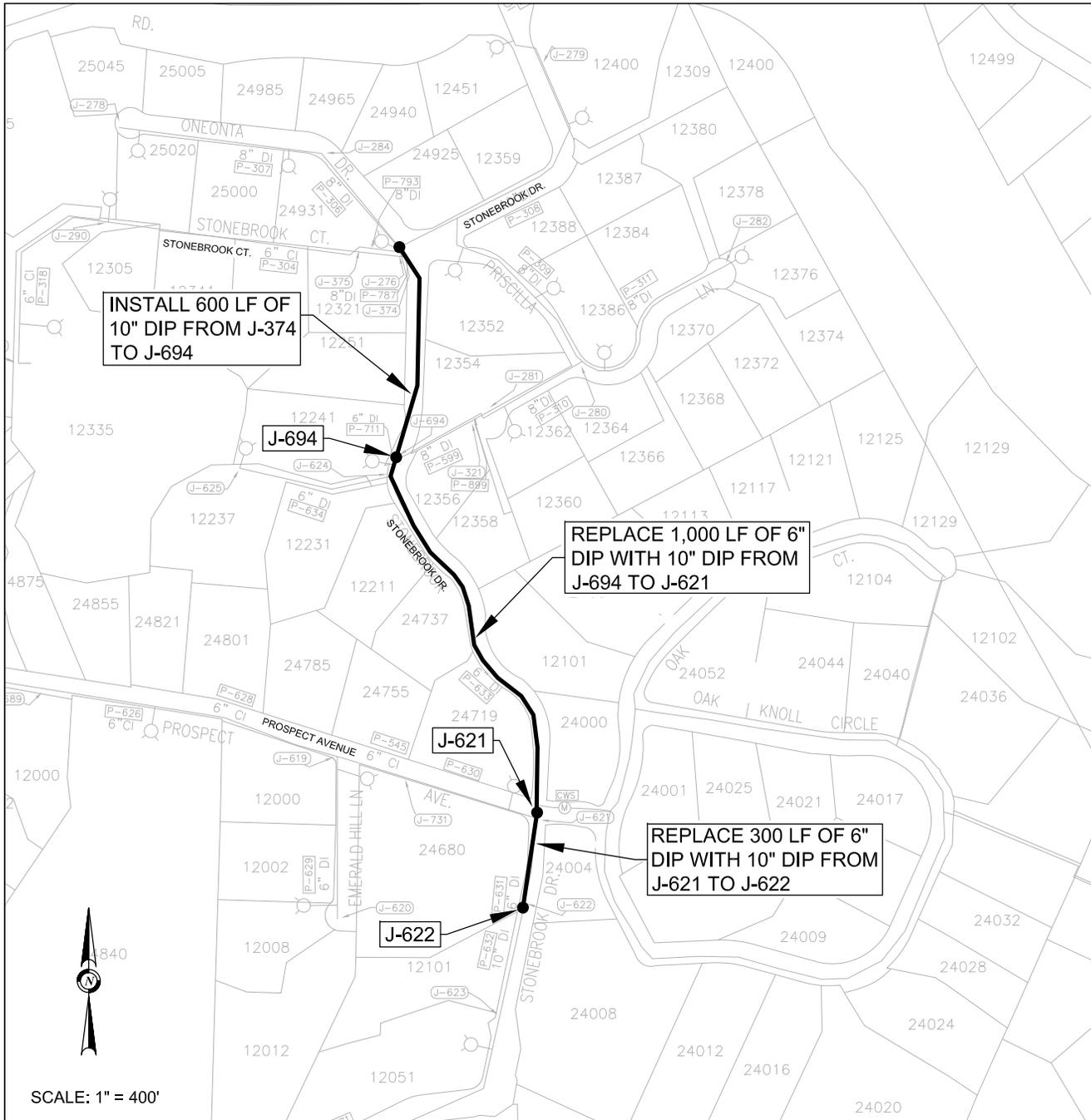
- Replace 1,300 LF of 6" CIP with 10" DIP
- Install 600 LF of new 10" DIP
- Replace 3 fire hydrants
- Replace 4 service connections

PROJECT BENEFITS

The Stonebrook Drive Water Main Improvements improves fire flows in the southern portion of the District in addition to improving Neary Tank utilization.

PROJECT BUDGET (2021)

10" DIP - 1,900 LF @ \$500/LF	\$ 950,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 4 @ \$5,000/EA	\$ 20,000
Subtotal Construction	\$ 1,015,000
Planning, Design, & Construction Support	\$ 155,000
Construction Inspection	\$ 100,000
Contingency (±10%)	\$ 130,000
Project Budget	\$ 1,400,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
STONEBROOK DRIVE WATER MAIN IMPROVEMENTS
PROJECT 07-13

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ALTAMONT ROAD ZONE 4 WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing 6" Cast Iron Pipe (CIP) water main along Altamont Road between Appaloosa Way and Julietta Lane has had several leaks over past years. The water main is located behind the curb, encumbered by several existing Oak trees, with difficult accessibility. The services along this section of water main are direct tap without service saddles. This project replaces approximately 1,300 LF of 6" CIP with 8" Ductile Iron Pipe (DIP). This project is consistent with the goals of the District to replace older CIP with DIP into accessible locations.

PROPOSED IMPROVEMENTS

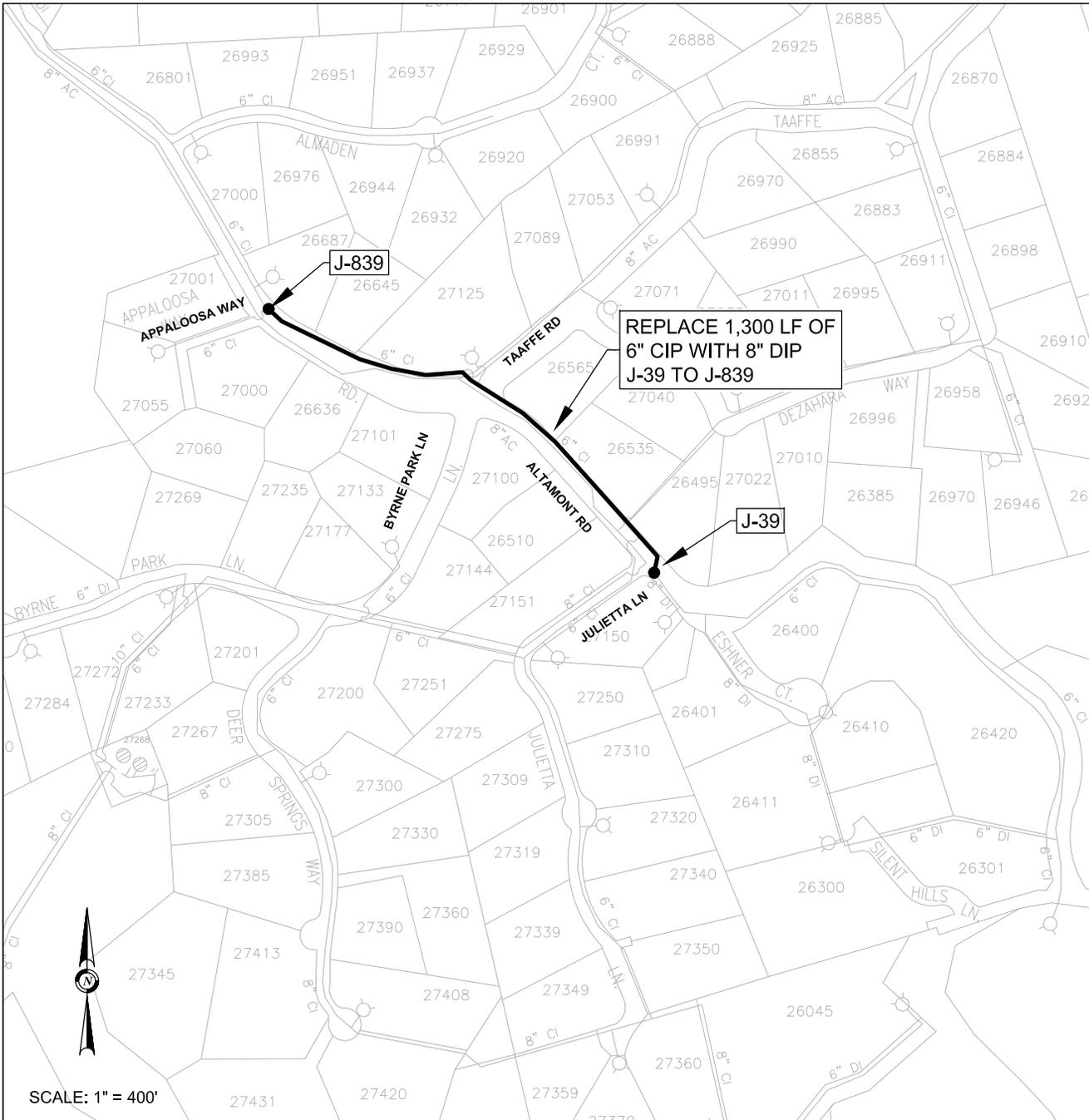
Replace 1,300 LF of 6" CIP with 8" DIP
 Replace 2 fire hydrants
 Replace 10 service connections

PROJECT BENEFITS

The Altamont Road Zone 4 Water Main Improvements replaces old infrastructure, with a history of leaks, with new water main, and slightly increases fire protection in the area.

PROJECT BUDGET (2021)

8" DIP - 1,300 LF @ \$450/LF	\$ 585,000
Fire Hydrants - 2 @ \$15,000/EA	\$ 30,000
Service Connections - 10 @ \$5,000/EA	\$ 50,000
Subtotal Construction	\$ 665,000
Planning, Design, & Construction Support	\$ 135,000
Construction Inspection	\$ 70,000
Contingency (±10%)	\$ 90,000
Project Budget	\$ 960,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
ALTAMONT ROAD ZONE 4 WATER MAIN IMPROVEMENTS
PROJECT 09-03

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QUARRY LAKE EMERGENCY WATER SUPPLY

PROJECT BACKGROUND

The District currently purchases all of its water from SFPUC's Hetch Hetchy System (System). SFPUC is currently implementing its Water Supply Improvement Program ("WSIP") to improve System reliability, especially during major seismic events. One of the WSIP's design criteria is the System will endeavor to serve winter day demands to a large portion of its customers within 24 hours of a major seismic event. Therefore, even after the WSIP completion, the District can expect to be without water for at least 24 hours after a major seismic event and potentially for a much longer period. The District identified Quarry Lake as a potential emergency water source in the event of the System's extended unavailability. The District retained Armand Ruby Consulting ("ARC") to perform a water quality analysis of Quarry Lake. ARC concluded in its Report of Quarry Lake Water Quality Analysis, dated December 2008 (ARC, 2008), the water quality in Quarry Lake meets most drinking water regulatory limits.

This project involves purchasing a mobile pump, tank and chlorine injection equipment along with installing permanent piping and intake facilities to utilize Quarry Lake for an emergency water source. The water will be designated as non-potable and will require a boil order. The District's distribution system will require flushing once the System is restored.

PROPOSED IMPROVEMENTS

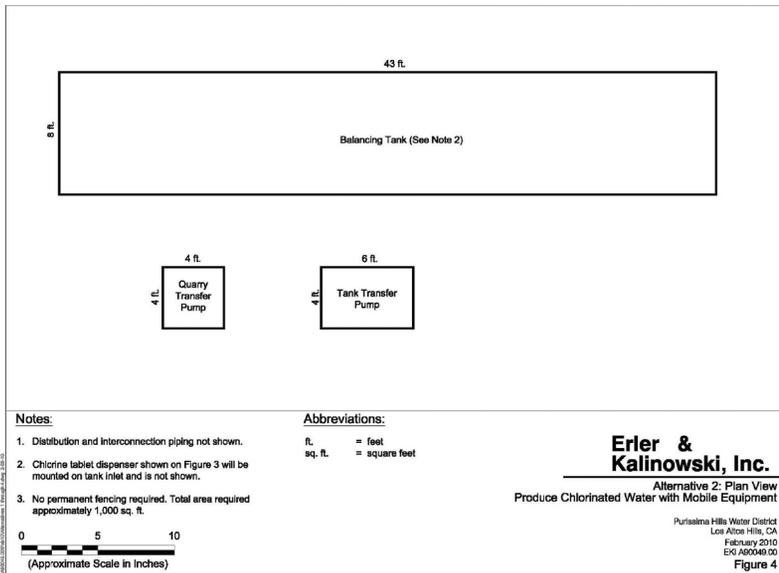
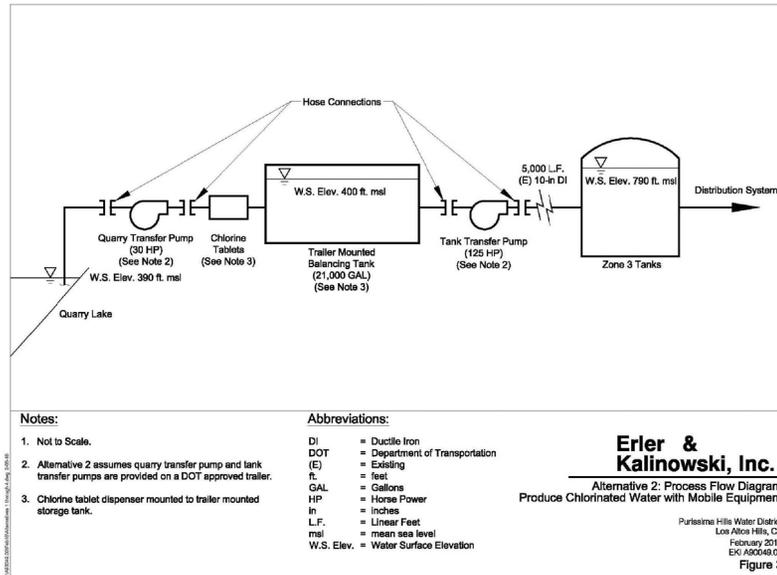
Purchase of a mobile pump, tank and chlorine injection equipment along with the installation of permanent piping and intake facilities at Quarry Lake.

PROJECT BENEFITS

The Quarry Lake Emergency Water Supply will provide the District a reliable emergency source of water following a major seismic event in addition to also increasing fire protection reliability.

PROJECT BUDGET (2021)

Materials and Construction	\$ 700,000
Planning, Design, & Construction Support	\$ 140,000
Construction Inspection	\$ 70,000
Contingency (±10%)	\$ 90,000
Project Budget	\$ 1,000,000



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CAPITAL IMPROVEMENT PROGRAM
QUARRY LAKE EMERGENCY WATER SUPPLY
PROJECT 11-02

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ELENA TANK FOUNDATION IMPROVEMENTS

PROJECT BACKGROUND

In 2012, the structural engineering firm of G&E Engineering Systems performed a District wide seismic vulnerability assessment. The assessment considered the combined effects of large earthquakes on the San Andreas and Hayward faults on SFPUC and District systems as they existed in 2012.

Due to a lack of an adequate foundation, the current 500,000 gallon Elena Tank does not meet minimum seismic standards of a 475-year earthquake. This project involves constructing a new foundation and anchoring system for the tank.

PROPOSED IMPROVEMENTS

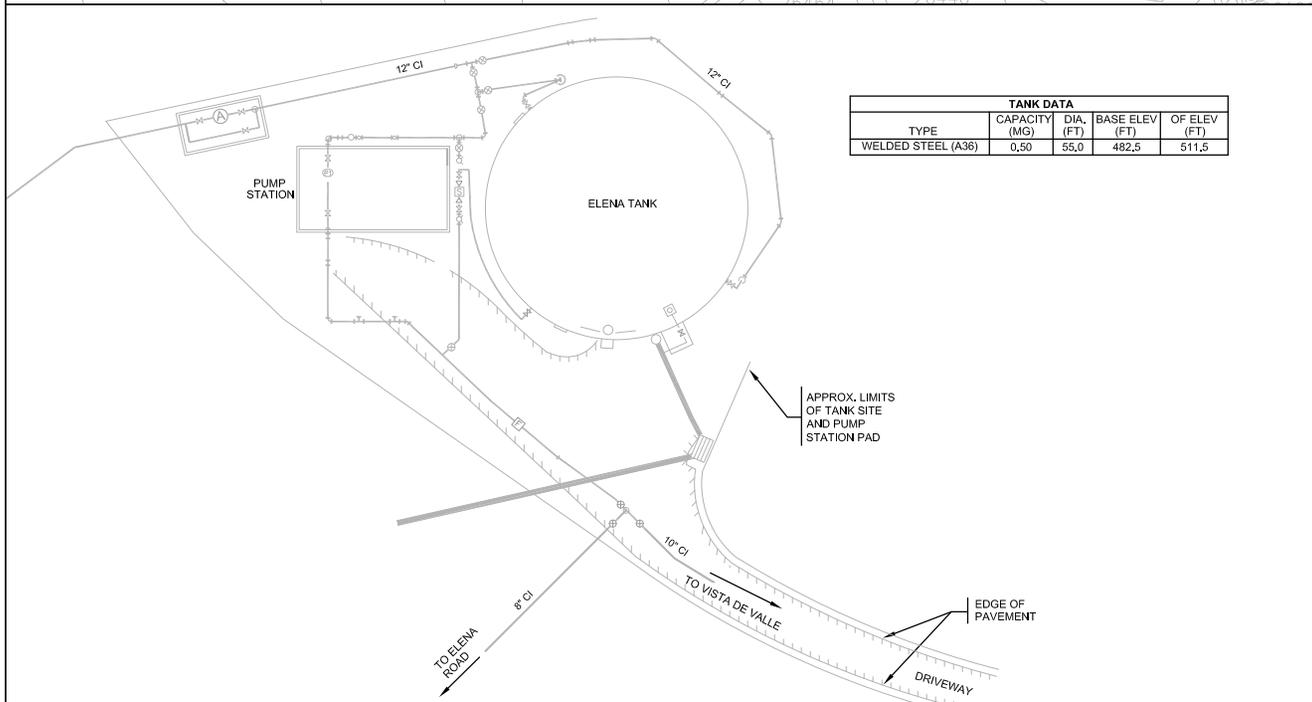
Install a new foundation and anchoring system.

PROJECT BENEFITS

The Elena Tank Foundation Improvements will allow Elena Tank to remain operational in addition to increasing fire protection reliability after a 475-year earthquake.

PROJECT BUDGET (2021)

Construction	\$ 700,000
Planning, Design, & Construction Support	\$ 140,000
Construction Inspection	\$ 70,000
Contingency (±10%)	\$ 90,000
Project Budget	\$ 1,000,000



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CAPITAL IMPROVEMENT PROGRAM
ELENA TANK FOUNDATION IMPROVEMENTS
PROJECT 13-03

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ALTAMONT TANKS IMPROVEMENTS

PROJECT BACKGROUND

The District's two Altamont Tanks are located in the middle of Zone 3 and have a combined storage of 450,000 gallons serving Zone 3. Tank 1 is constructed of redwood with steel bands and Tank 2 is steel. The Altamont Pump Station pumps out of the Altamont Tanks into Zone 4. Due to their location, the Altamont Tanks are heavily used in the District's daily operation and ideally should be replaced with larger tanks.

In 2012, the structural engineering firm of G&E Engineering Systems performed a District wide seismic vulnerability assessment. The assessment considered the combined effects of large earthquakes on the San Andreas and Hayward faults on the SFPUC and District systems as they existed in 2012. The District's Board of Directors designated the Altamont Tanks as a critical facility. G&E's report determined the tanks are unable to withstand a 475-year earthquake. It is recommended Tank 1 (redwood tank) be demolished and reconstructed as a larger tank seismically capable of withstanding a 975-year earthquake. Tank 2 requires a new foundation and extensive seismic upgrades to withstand a 975-year earthquake.

PROPOSED IMPROVEMENTS

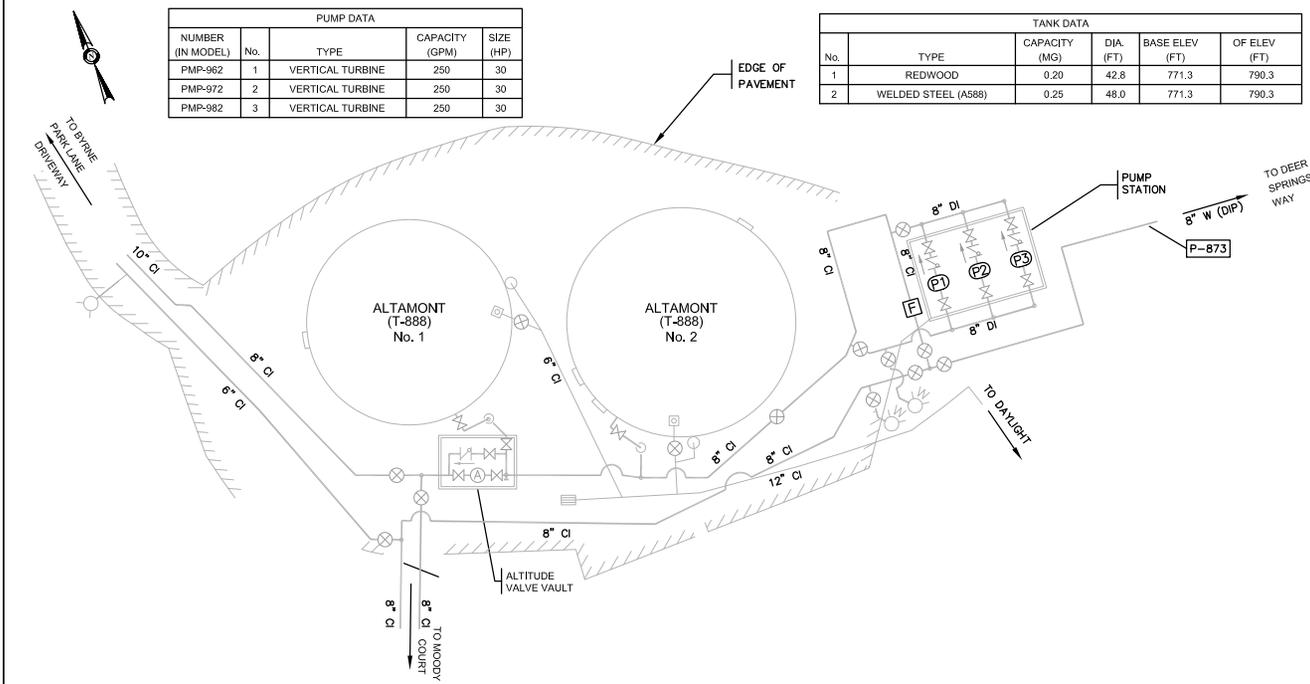
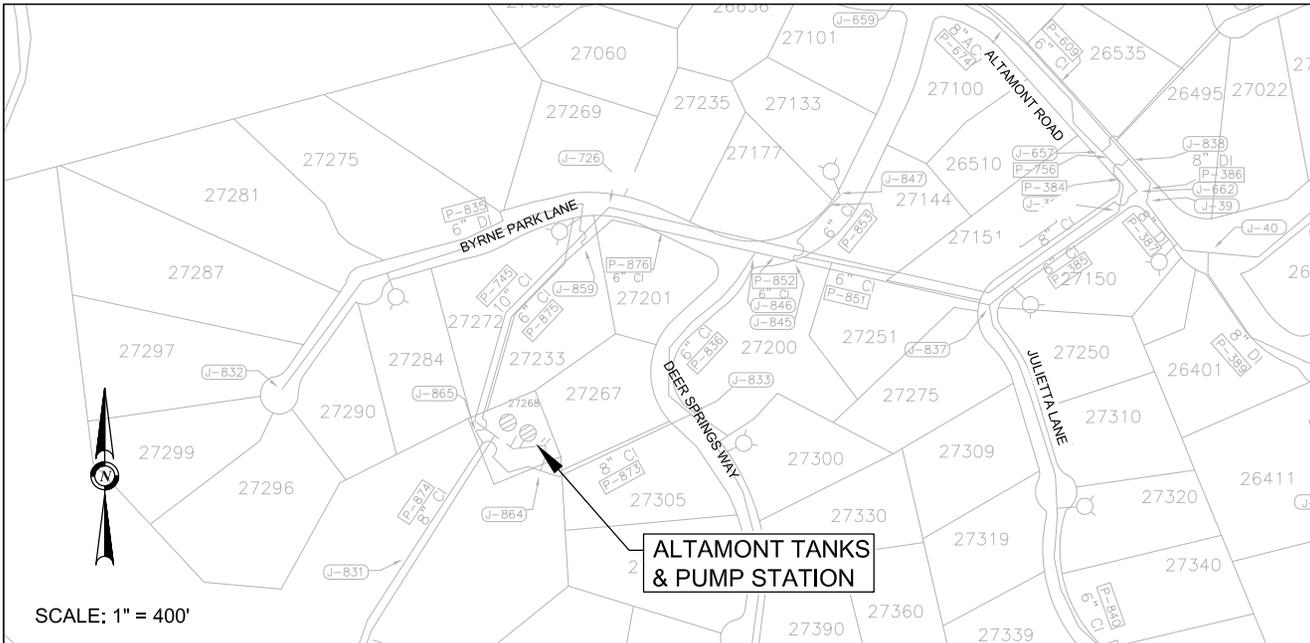
Replacement of Tank 1
Seismic retrofit of Tank 2

PROJECT BENEFITS

The Altamont Tanks Improvements will allow the tanks to remain operational and significantly increase fire protection reliability after a 975-year earthquake.

PROJECT BUDGET (2021)

Tank 1 Replacement	\$ 3,500,000
Tank 2 Seismic Retrofit	\$ 750,000
Subtotal Construction	\$ 4,250,000
Planning, Design, & Construction Support	\$ 640,000
Construction Inspection	\$ 425,000
Contingency (±10%)	\$ 530,000
Project Budget	\$ 5,845,000



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CAPITAL IMPROVEMENT PROGRAM
ALTAMONT TANKS IMPROVEMENTS
PROJECT 13-05

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PLOT DATE: 06-02-21 PLOTTED BY: BL/ark

DEER CREEK PUMP STATION FIRE SUPPRESSION

PROJECT BACKGROUND

The Deer Creek Pump Station was constructed in 1986 and in 2009 went through a comprehensive seismic upgrade along with installing an emergency generator. The pump station has 5 pumps distributing water to both Zones 2 and 3. Due to its location and pumping capacity, the District designated the Deer Creek Pump Station as a critical facility needing to remain operational after an emergency event. The pump station currently does not have a fire suppression system and this project consists of installing a non-liquid fire suppression system.

PROPOSED IMPROVEMENTS

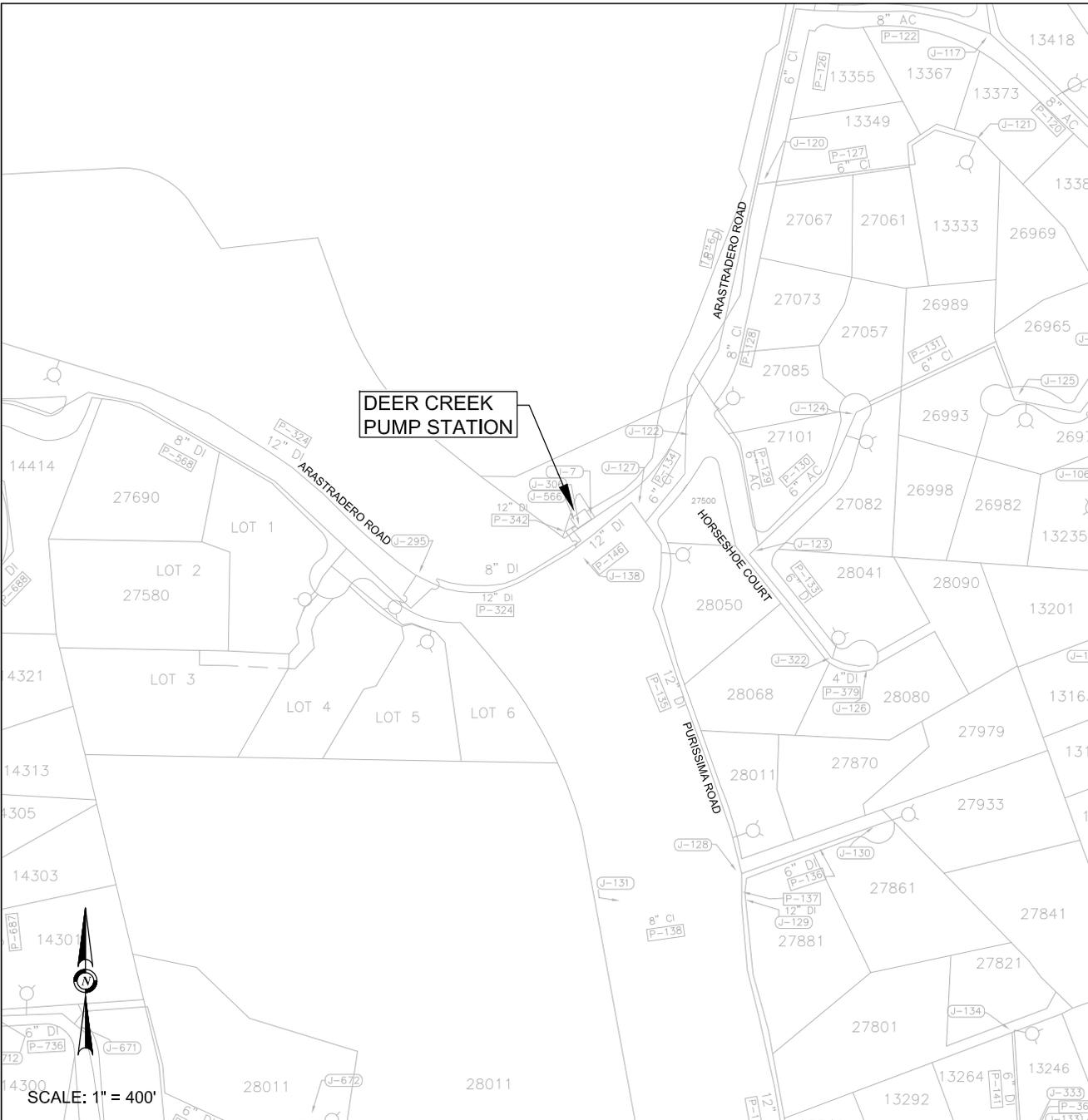
Install a non-liquid fire suppression system

PROJECT BENEFITS

The Deer Creek Pump Station Fire Suppression will quickly extinguish fires by utilizing an automatic fire suppression system and significantly increase fire protection reliability.

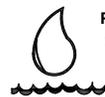
PROJECT BUDGET (2021)

Fire Suppression System	\$ 300,000
Planning, Design, & Construction Support	\$ 75,000
Construction Inspection	\$ 30,000
Contingency (±10%)	\$ 40,000
Project Budget	\$ 445,000



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CAPITAL IMPROVEMENT PROGRAM
DEER CREEK PUMP STATION FIRE SUPPRESSION
PROJECT 13-07

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PLOT DATE: 06-02-21 PLOTTED BY: BL/JP

LA CRESTA TANK CROSS COUNTRY WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The 8" Cast Iron Pipe (CIP) cross country (CC) water main from Anacapa Drive (at Anacapa Court) to La Cresta Tank site is located between several newly remodeled homes. The water main serves as a vital link between the McCann Pump Station and La Cresta Tanks and needs to remain in operation. It was installed in 1959 as part of the original distribution system. A leak on this water main could cause catastrophic damage to surrounding homes. This project replaces the existing CIP with new 8" Ductile Iron Pipe (DIP) in the same location. Due to topography, alternative construction methods such as slip lining or horizontal directional boring will be considered for installation. Distribution System Analysis No. 65

PROPOSED IMPROVEMENTS

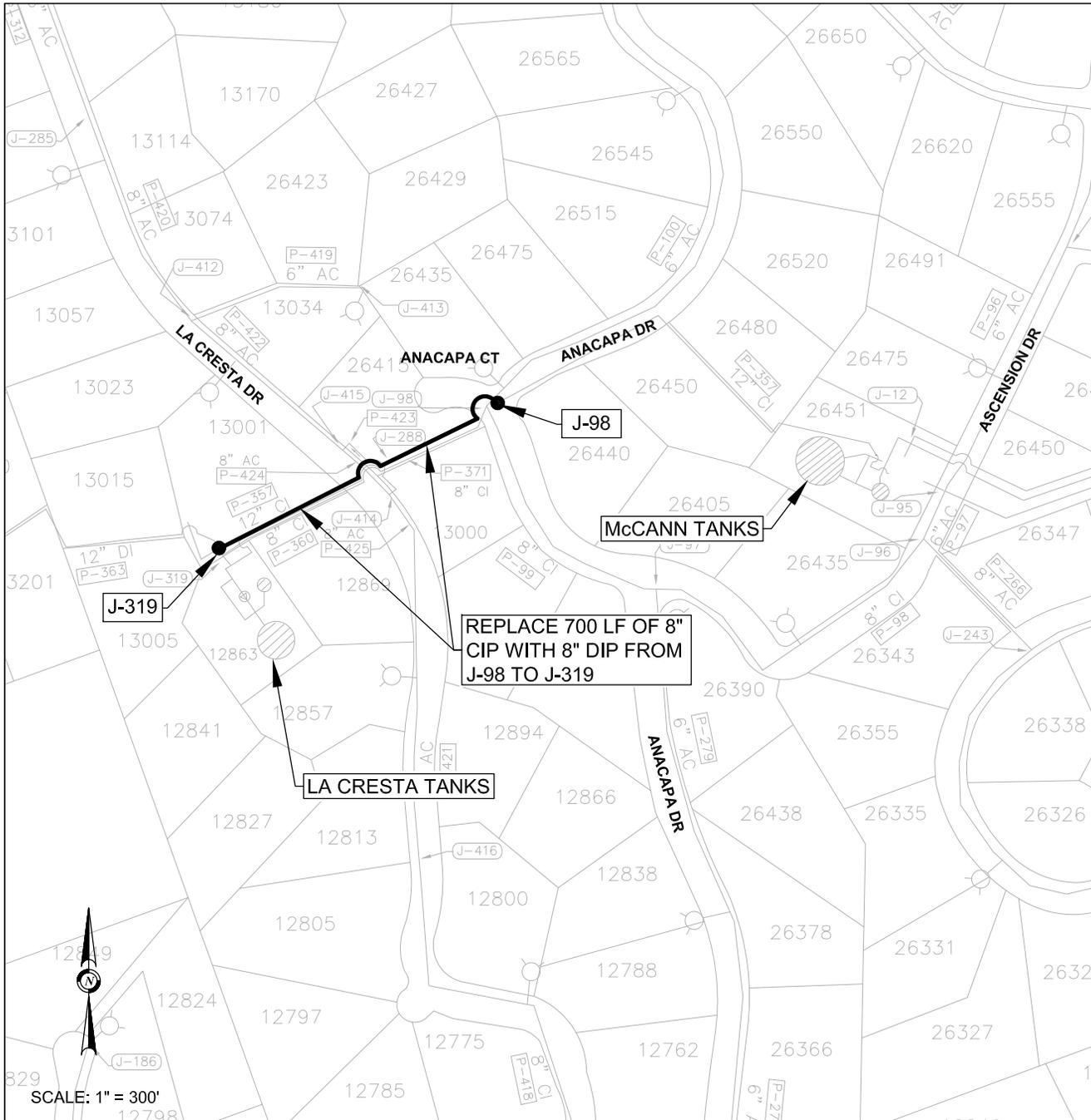
Replace 700 LF of 8" CIP with 8" DIP

PROJECT BENEFITS

The La Cresta Cross County Water Main Improvements replaces old infrastructure with new water main and increases system reliability.

PROJECT BUDGET (2021)

8" DIP - 700 LF @ \$1,000/LF	\$ 700,000
Subtotal Construction	\$ 700,000
Planning, Design, & Construction Support	\$ 140,000
Construction Inspection	\$ 70,000
Contingency (±10%)	\$ 90,000
Project Budget	\$ 1,000,000



SCALE: 1" = 300'



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CAPITAL IMPROVEMENT PROGRAM
LA CRESTA TANK CC WATER MAIN IMPROVEMENTS
PROJECT 13-08

HUNGRY HORSE TANK IMPROVEMENTS

PROJECT BACKGROUND

In 2012, the structural engineering firm of G&E Engineering Systems performed a District wide seismic vulnerability assessment. The assessment considered the combined effects of large earthquakes on the San Andreas and Hayward faults on SFPUC and District systems as they existed in 2012.

The 3,000,000 gallon Hungry Horse Tank is a buried concrete tank servicing Zone 2 and is one of the District's largest storage facilities. G&E's 2012 report determined the tank capable of withstanding a 475-year earthquake. The District designated this tank as a critical facility following an updated seismic assessment prepared by Cornerstone Structural Engineering Group (CSEG) in 2016 requiring it to withstand a 975-year earthquake. Based on the 2016 assessment, a retrofit of the tank includes those mentioned in the proposed improvements below.

PROPOSED IMPROVEMENTS

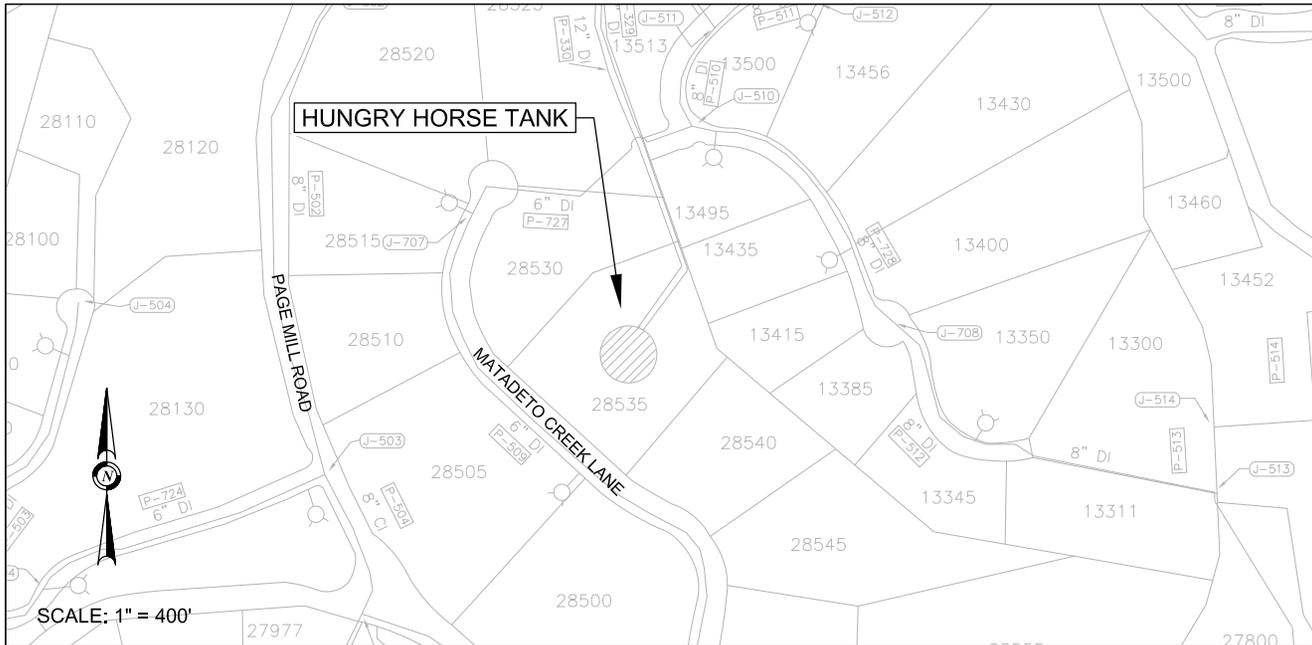
- Concrete floor strengthening
- Recoating the tank roof
- New interior liner

PROJECT BENEFITS

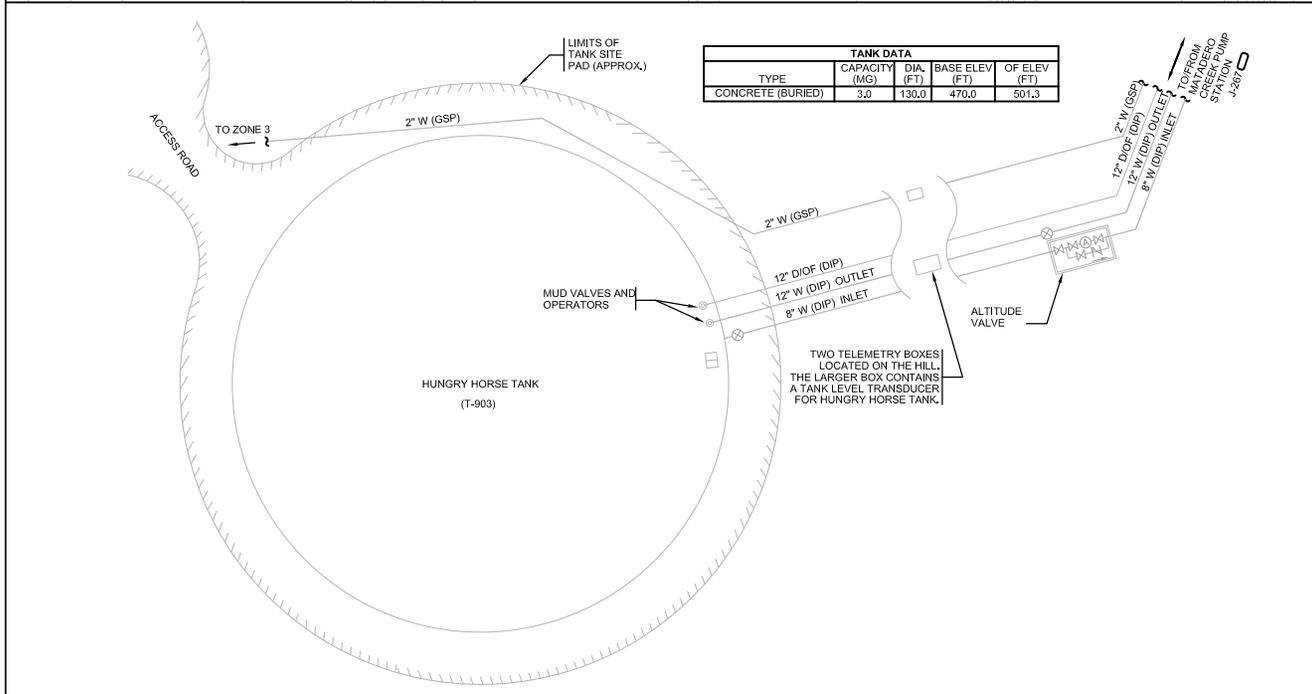
The Hungry Horse Tank Improvements will allow the tank to remain operational after a 975-year earthquake.

PROJECT BUDGET (2021)

Strengthen Concrete Floor	\$ 900,000
Roof Recoating	\$ 150,000
New Tank Liner	\$ 650,000
Subtotal Construction	\$ 1,700,000
Planning, Design, & Construction Support	\$ 255,000
Construction Inspection	\$ 170,000
Contingency (±10%)	\$ 215,000
Project Budget	\$ 2,340,000



SCALE: 1" = 400'



TANK DATA				
TYPE	CAPACITY (MG)	DIA. (FT)	BASE ELEV. (FT)	OF ELEV. (FT)
CONCRETE (BURIED)	3.0	130.0	470.0	501.3

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CAPITAL IMPROVEMENT PROGRAM
HUNGRY HORSE TANK IMPROVEMENTS
 PROJECT 18-01

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I-280 (SOUTH) WATER MAIN ABANDONMENT

PROJECT BACKGROUND

A combination of three primary Zone 2 water mains presently supply water to Elena Tank: (A) 10" Cast Iron Pipe (CIP) cross country (CC) water main between Banerjee Path (a private driveway off Purissima Rd) and Elena Rd, a portion of which cross under I-280; (B) 8"-10" CIP along Robleda / Elena Rds; (C) 12" CIP along Elena Rd. Segment A is approximately 55 years old, would be difficult to repair if a rupture occurs in addition to possibly causing significant damage and traffic disruptions on I-280. In an effort to eliminate CC water mains and reduce system maintenance, the A thru C segments will be abandoned, rerouted, and upsized to a 12" Ductile Iron Pipe (DIP) along La Barranca / Elena Rds. To maintain Zone 2 redundancy and fire flows south of La Paloma Rd, a Zone 3 to Zone 2 pressure reducing valve (PRV) will be installed at the Robleda Rd / Duval Way intersection. Hydraulic modeling also indicates a 10 hour tank cycling improvement in addition to maintaining Zone 2 fire flows upon completed improvements. Distribution System Analysis No. 427

PROPOSED IMPROVEMENTS

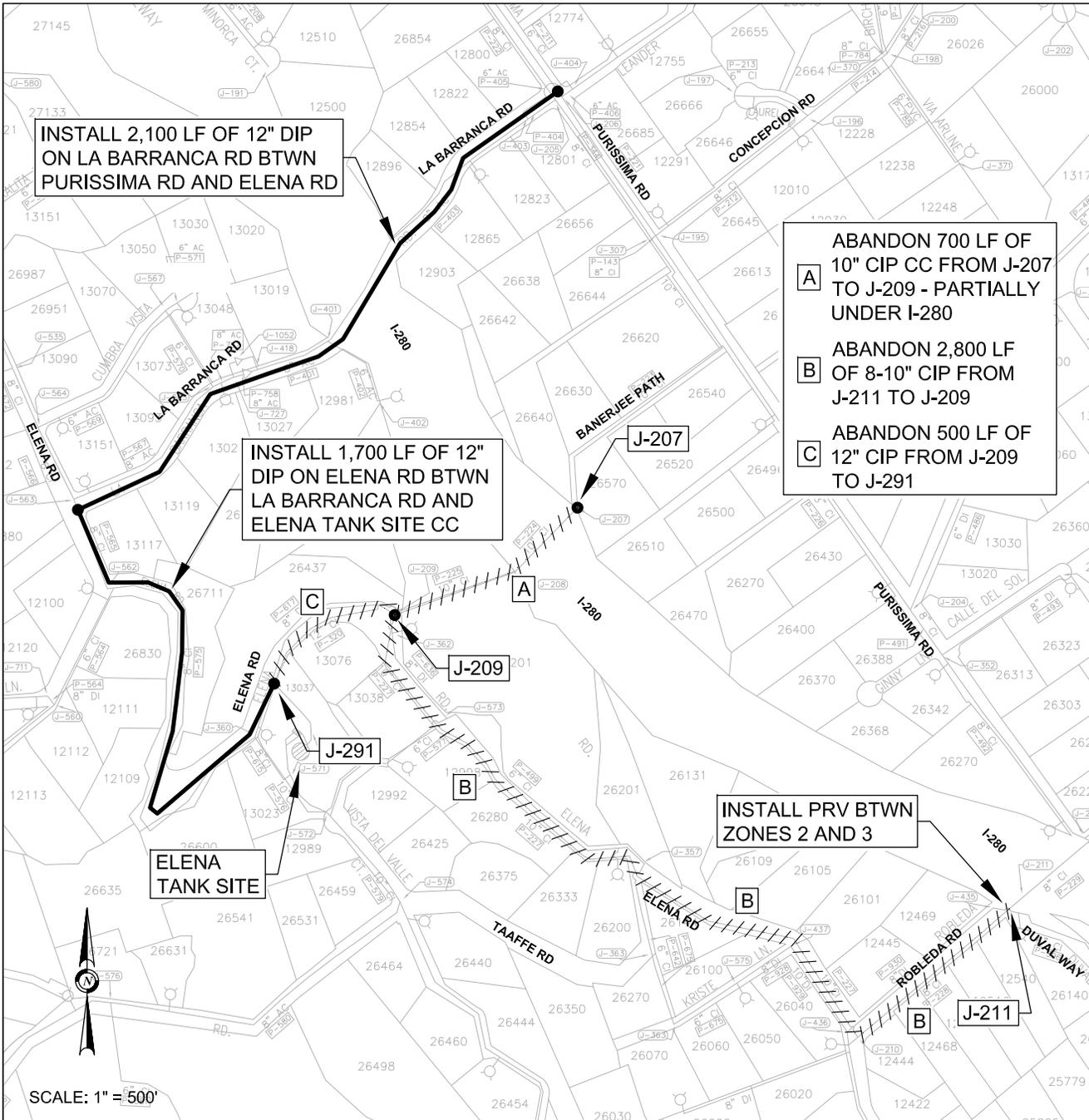
Abandon 4,000 LF of 8"-12" ACP/CIP (300 LF under I-280)
 Install 3,800 LF of 12" DIP
 Install a Zone 3 to Zone 2 PRV

PROJECT BENEFITS

The I-280 (South) Water Main Abandonment abandons a water main underneath I-280 where leaks or failures could possibly cause catastrophic damage to I-280. The project also, improves repair/maintenance accessibility, lowers the amount of infrastructure the District needs to maintain, and improves tank cycling. There will be minimal impact to fire flows and system redundancy will improve with the addition of a Zone 3 to Zone 2 PRV.

PROJECT BUDGET (2021)

12" DIP - 3,800 LF @ \$550/LF	\$ 2,090,000
PRV Station	\$ 300,000
Subtotal Construction	\$ 2,390,000
Planning, Design, & Construction Support	\$ 360,000
Construction Inspection	\$ 240,000
Contingency (±10%)	\$ 310,000
Project Budget	\$ 3,300,000



INSTALL 2,100 LF OF 12" DIP ON LA BARRANCA RD BTWN PURISSIMA RD AND ELENA RD

INSTALL 1,700 LF OF 12" DIP ON ELENA RD BTWN LA BARRANCA RD AND ELENA TANK SITE CC

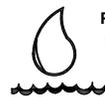
A ABANDON 700 LF OF 10" CIP CC FROM J-207 TO J-209 - PARTIALLY UNDER I-280
B ABANDON 2,800 LF OF 8"-10" CIP FROM J-211 TO J-209
C ABANDON 500 LF OF 12" CIP FROM J-209 TO J-291

INSTALL PRV BTWN ZONES 2 AND 3



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JOB No.	10002.04
DATE	06/01/21
SCALE	AS NOTED
DRAWN:	BY <u>BL</u> CKD <u>JP</u>



PURISSIMA HILLS WATER DISTRICT
 SANTA CLARA COUNTY, CALIFORNIA
 26375 FREMONT ROAD
 LOS ALTOS HILLS, CA 94022

CAPITAL IMPROVEMENT PROGRAM
 I-280 (SOUTH) WATER MAIN ABANDONMENT
 PROJECT 21-01

DRAWING NAME: I:\CADD\10002_04\dwg\21-01_CIP-PRV-DIP-21-01.dwg
 PLOT DATE: 06-02-21 PLOTTED BY: BL/JP

SETON WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The Seton Property (Seton) has approximately 900 LF of 8" Cast Iron Pipe (CIP) located outside the roadway in resident front lawns and in close proximity to homes. The District experienced several leaks on these water mains installed in the late 1950's. The water mains within Seton connect to Altamont Road to the north, the Blue Oaks Subdivision to the west, and Old Snakey Road to the south. This project replaces 1,000 LF of 8" CIP water mains with new 8" DIP.

PROPOSED IMPROVEMENTS

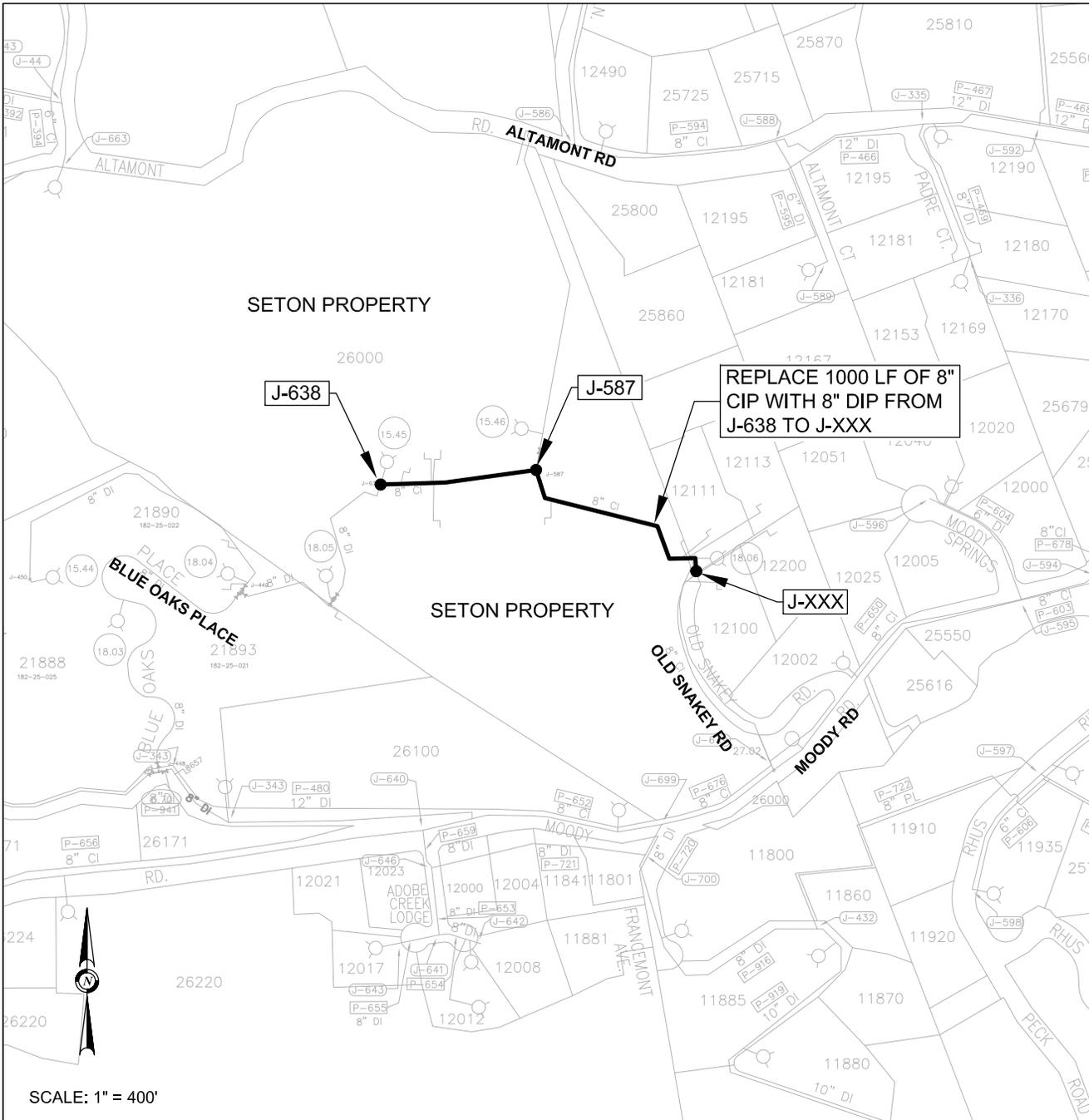
- Replace 1,000 LF of 8" CIP with 8" DIP
- Replace 3 fire hydrants
- Replace 7 service connections

PROJECT BENEFITS

The Seton Water Main Improvements replaces old infrastructure, with a history of extensive leaks, with new water main.

PROJECT BUDGET (2021)

8" DIP - 1,000 LF @ \$450/LF	\$ 450,000
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 7 @ \$5,000/EA	\$ 35,000
Subtotal Construction	\$ 530,000
Planning, Design, & Construction Support	\$ 155,000
Construction Inspection	\$ 80,000
Contingency (±10%)	\$ 80,000
Project Budget	\$ 845,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
SETON WATER MAIN IMPROVEMENTS
PROJECT 19-04

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DUVAL WAY WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing 6" and 8" Cast Iron Pipe (CIP) water main along Duval Way between Robleđa Road and Josefa Lane has had several leaks over the past few years. The water main is located behind the curb making accessibility difficult. The water services along this water main are direct tap without service saddles. This project replaces approximately 1,450 LF of 6"-8" CIP with 8" Ductile Iron Pipe (DIP). This project is consistent with the goals of the District to replace older CIP water main with DIP in more accessible locations.

PROPOSED IMPROVEMENTS

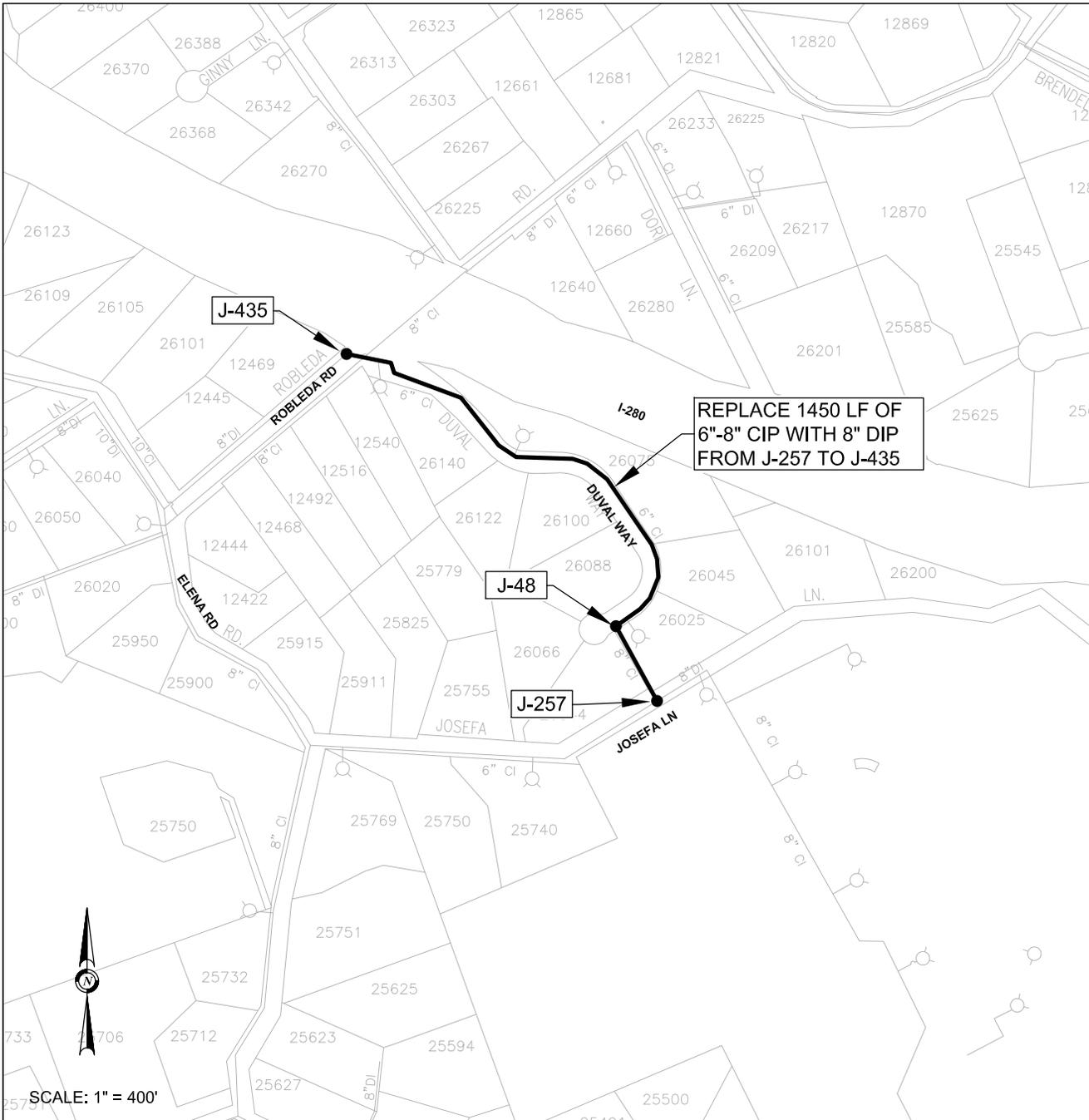
Replace 1,450 LF of 6"-8" CIP with 8" DIP
 Replace 3 fire hydrants
 Replace 10 service connections

PROJECT BENEFITS

The Duval Way Water Main Improvements will replace old infrastructure and improve fire flows in the area.

PROJECT BUDGET (2021)

8" DIP - 1,450 LF @ \$450/LF	\$ 652,500
Fire Hydrants - 3 @ \$15,000/EA	\$ 45,000
Service Connections - 10 @ \$5,000/EA	\$ 50,000
Subtotal Construction	\$ 747,500
Planning, Design, & Construction Support	\$ 150,000
Construction Inspection	\$ 80,000
Contingency (±10%)	\$ 97,500
Project Budget	\$ 1,075,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
DUVAL WAY WATER MAIN IMPROVEMENTS
 PROJECT 09-02

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ELENA ROAD (SOUTH) WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing 8" Cast Iron Pipe (CIP) water main along Elena Road between Vinedo Lane and Robleda Lane experienced several leaks over past years. The portion between Josefa Lane and Vinedo Lane was replaced in 2019. This project replaces the remaining 800 LF of 8" CIP with 8" Ductile Iron Pipe (DIP).

PROPOSED IMPROVEMENTS

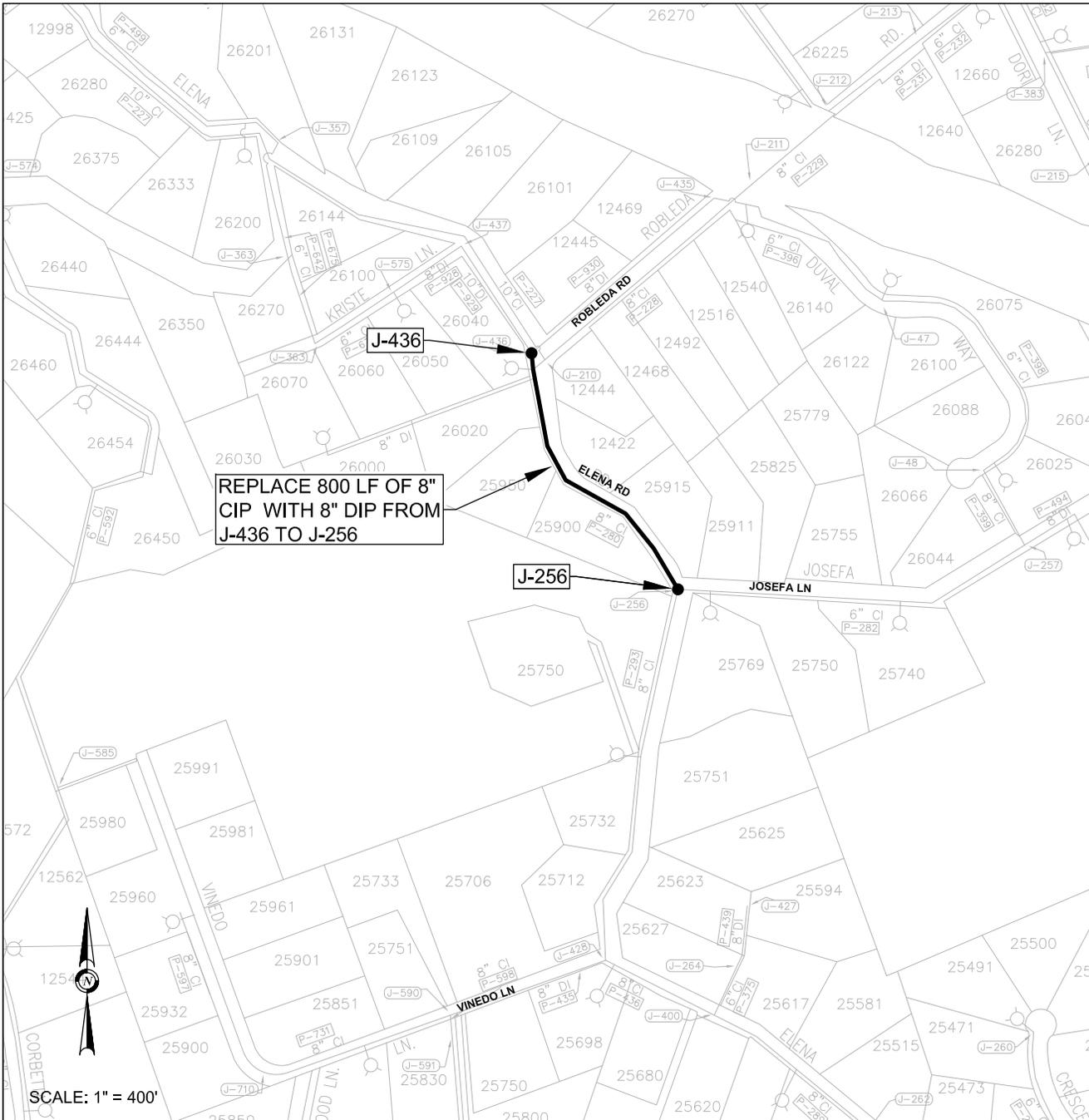
Replace 800 LF of 8" CIP with 8" DIP
 Replace 2 fire hydrants
 Replace 6 service connections

PROJECT BENEFITS

The Elena Road (South) Water Main Improvements replaces old infrastructure, with a history of leaks, with new water main, and slightly increases fire protection.

PROJECT BUDGET (2021)

8" DIP - 800 LF @ \$450/LF	\$ 360,000
Fire Hydrants - 2 @ \$15,000/EA	\$ 30,000
Service Connections - 6 @ \$5,000/EA	\$ 30,000
Subtotal Construction	\$ 420,000
Planning, Design, & Construction Support	\$ 105,000
Construction Inspection	\$ 45,000
Contingency (±10%)	\$ 60,000
Project Budget	\$ 630,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
ELENA ROAD (SOUTH) WATER MAIN IMPROVEMENTS
PROJECT 14-03

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PADRE COURT WATER MAIN IMPROVEMENTS

PROJECT BACKGROUND

The existing 8" Ductile Iron Pipe (DIP) water main along Padre Court has had several leaks over the past few years and due to their frequency replacement is recommended. This project replaces approximately 400 LF 8" DIP with new 8" Ductile Iron Pipe (DIP) between Altamont Road and the cul-de-sac. The new water main will be cathodically protected.

PROPOSED IMPROVEMENTS

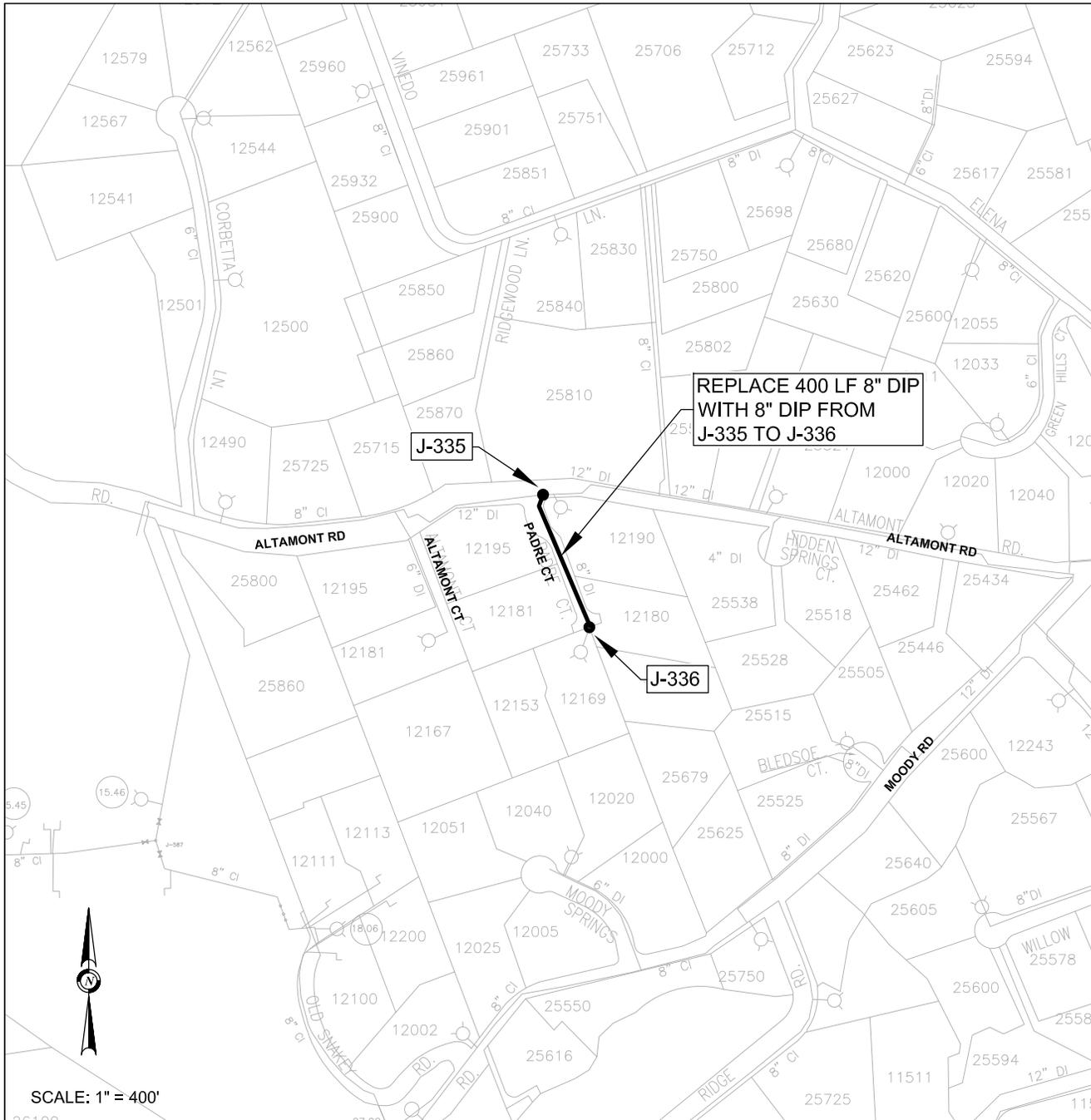
- Replace 400 LF of 8" DIP with 8" DIP
- Replace 1 fire hydrant
- Replace 9 service connections

PROJECT BENEFITS

The Padre Court Water Main Improvements will replace old infrastructure prone to extensive leaks.

PROJECT BUDGET (2021)

8" DIP - 400 LF @ \$450/LF	\$ 180,000
Fire Hydrants - 1 @ \$15,000/EA	\$ 15,000
Service Connections - 9 @ \$5,000/EA	\$ 45,000
Subtotal Construction	\$ 240,000
Planning, Design, & Construction Support	\$ 75,000
Construction Inspection	\$ 25,000
Contingency (±10%)	\$ 35,000
Project Budget	\$ 375,000



SCALE: 1" = 400'



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CAPITAL IMPROVEMENT PROGRAM
PADRE COURT WATER MAIN IMPROVEMENTS
PROJECT 21-02

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