

PSWID WIFA CAPITAL IMPROVEMENT PROGRAM 2017 THRU 2020

OVERVIEW

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District Manager

September 21, 2017



- ▶ The Pine-Strawberry Water Improvement District (PSWID) provides potable water service to approximately 3,200 water customers (population 8,000) located in northwest corner of Gila County and is comprised of a little more than 10 square miles of service area. The service area is a rural, mountainous and wooded region served exclusively by ground water.
- ➤ The PSWID owns 17 Active water production wells (14 in Pine; 3 in Strawberry) at various production capacities. The PSWID also employs 8 water production wells owned by other private entities (4 in Pine; 4 in Strawberry) that pump directly into the PSWID water distribution system or storage facilities.
- The PSWID has 22 storage tanks with a total of 1.331 MG of storage. The Pine service area has a total of 11 storage tanks with a storage volume of 1,037,000 gallons (78% of total). The Strawberry service area has a total of 11 tanks with a storage volume of 294,000 gallons (22%).
- ► The PSWID has approximately 357,600 linear feet of water mains (67.7 miles). The water mains range in size from 2-inch to 8-inch and 78% of the water mains are sized 4-inch or smaller.



- IN 2008 THE CONSULTING FIRM OF CVL PREPARED AN ASSESSMENT OF THE DISTRICT'S EXISTING INFRASTRUCTURE
- ► IN 2008 THE PIPES WERE AT 80% OF THEIR EXPECTED LIFE, THE STORAGE TANKS WERE BETWEEN 40% TO 64%, THE BOOSTER STATIONS BETWEEN 63% AND 138%, AND THE WELLS AT 93%.
- NOW IN 2017 THE PIPES ARE AT 98% OF THEIR EXPECTED LIFE, THE STORAGE TANKS ARE AT 60% TO 80%, THE BOOSTER STATIONS BETWEEN 175% AND 250%, AND THE WELLS BETWEEN 123% AND 140%.
- ► ASSETS THAT ARE 75% OR MORE THRU THEIR STANDARD USEFUL LIFE SHOULD BE CONSIDERED FOR MAJOR OVERHAUL OR REPLACEMENT ESPECIALLY IF THEY HAVE NOT RECEIVED REGULAR PREVENTATIVE MAINTENANCE

PSWID

Re: Valuation of Pine and Strawberry Water Companies July 2, 2008 $\,$ (BY: $\underline{CVL})$ Page 3

Table 1- Pine & Strawberry Water Companies Cost Evaluation Summary

Equipment/Asset	Average ² Age (yrs.)	Average ¹ Service Life (yrs.)	% of Service Life - 2008	% of Service Life - 2017
Pine Water	Company			
Storage Tanks (Reservoirs)	27	45	60%	80%
Pressure Tanks	17	20	85%	130%
Booster Pump Stations	11	8	138%	250%
Buildings	16	20	80%	125%
Pressure Reducing Valve (PRV) Stations	8	30	27%	57%
Transmission & Distribution Mains	40	50	80%	98%
Well & Well Head Infrastructure and Equipment	28	30	93%	123%
Service Connections	25	30	83%	113%
Service Water Meters	10	12	83%	158%

Strawberry Water Company					
Storage Tanks (Reservoirs)	20	45	44%	64%	
Pressure Tanks	14	20	70%	115%	
Booster Pump Stations	5	8	63%	175%	
Buildings	5	20	25%	70%	
Transmission & Distribution Mains	40	50	80%	98%	
Wells & Well Head Infrastructure and Equipment	33	30	110%	140%	
Service Connections	25	30	83%	113%	
Service Water Meters	10	12	83%	158%	

Average Age of Equipment and assets is based on a compilation of information from record drawings provided for the water systems and an estimate of age based on visual inspections by CV L..

^{3.} Average Service Life = expected life of asset type using ACC Depreciation Rates for Water companies schedule.

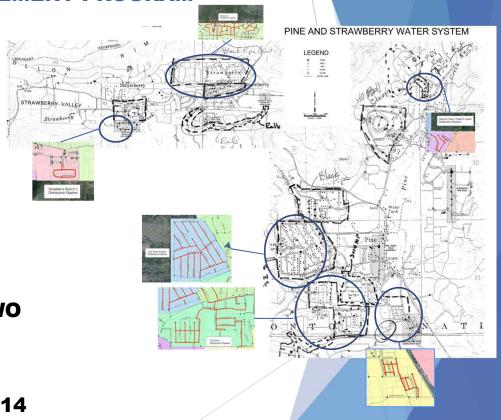


- IN 2017 PSWID STAFF DID AN UPDATED CONDITION ASSESSMENT OF THE DISTRICT'S WELLS, TANKS, AND BOOSTER STATIONS.
 - 54% OF THE 25 BOOSTER STATIONS NEED MAJOR WORK WITHIN THE NEXT YEAR (CONDITIONS RED OR YELLOW)
 - 27% OF THE 22 STAORAGE TANKS NEED MAJOR WORK WITHIN A YEAR
 - 42% OF THE 26 WELLS ALSO NEED MAJOR WORK WITHIN A YEAR





- * IN 2017 PSWID FIELD STAFF REPAIRED 125 BREAKS & LEAKS ON MAINS AND SERVICE CONNECTIONS ACROSS THE SYSTEM.
- * THEY SPENT AN AVERAGE OF 383
 HRS/MONTH ON REPAIRING LEAKS &
 BREAKS PLUS ANOTHER 101 PERFORMING
 "CORRECTIVE" MAINTENANCE
- ❖ REPAIRING ITEMS THAT HAVE FAILED/BROKEN COST THE DISTRICT ALMOST \$240,000 LAST YEAR ALONE
- * PSWID STAFF COMPILED DATA ON WHERE THE MAIN BREAKS OCCURED THE PAST TWO YEARS. THESE ARE SHOWN ON THE GRAPHIC.
- ❖ MANY OF THESE AREAS WERE ALSO
 IDENTIFIED AS PROBLEM AREAS IN THE 2014
 MASTER PLAN.





► IN JUNE 2017 THE PSWID BOARD APPROVED A 3-YEAR CIP PROGRAM OF \$3,372,000:

FY18: \$1,450,000

> FY19: \$900,000

FY20: \$1,022,000

- ► THE DISTRICT ANTICIPATED SELF FUNDING UP TO \$1,400,00 AND RECEIVING GRANTS/LOANS FOR THE REMAINING \$1,946,000
- IN JULY 2017 PSWID MET WITH WIFA ABOUT LOANS/GRANTS. PRELIMINARY EVALUATION BY WIFA INDICATED THE DISTRICT MIGHT QUALIFY FOR AS MUCH AS \$8,000,0000 IN LOANS.
- ► PSWID HAS SUBSEQUENTLY APPLIED FOR A LOAN FROM WIFA IN AN AMOUNT NOT TO EXCEED \$8,000,000. WIFA IS CURRENTLY REVIEWING THE DISTRICT'S APPLICATION.

PSWID Proposed FY18-FY20 CIP Program

Funding Priority	Description	CIP Program Budget	FY19 Proposed CIP Program Budget	CIP Program Budget
1	Milk Ranch Well Reduced Pumping Rate Testing	\$10,818		
1	Magnolia/Ralls- WM & VFD Installation	\$32,000		
1	EPS - FY18 General Engineering	\$10,000	\$12,000	\$15,00
1	Circle Drive Water Line Replacement - Installation (2745' - 3*)	\$270,000		
1	Strawberry View 1 Tank Repl - Installation	\$135,000		
1	Strawberry View 1 - Phase 2 (Combine w/ Phs 1 Tank Repl)	\$15,000	\$0	
1	Hydraulic hammer for Mini-Excavator- \$9,000	\$9,000		
2	Inspect and Rehab well-\$50,000	\$50,000		
2	Valve Replacement - Engineering	\$5,000		
2	Valve Replacement - Construction	\$35,000		
2	Canyon Tank 1 Replacement (Worst tank in system)	\$160,000		
2	Whispering Pines (2000' - 6")	\$252,000		
2	Pine Creek Easement (Ellison to North Rd))	\$140,000		
2	Old Country Rd & Bradshaw Rd	\$280,000		
2	Vac Truck	\$3,600		
2	Rehabilitation/Repair Of The Portals I & II Summit Drive Water Tank Building	\$20,000		
2	Quick couple bucket is recommended for both the Case backhoe and the mini-exca	\$20,000		
2	Two (2) of the service trucks likely need a generator	\$2,000	\$2,000	
1	Valve Replacement - Engineering		\$5,000	\$5,00
1	Valve Replacement - Construction		\$35,000	\$35,00
1	Canyon Tank 2 Rehabilition		\$110,000	
1	Old Country Rd & Torries Pines Ln		\$306,000	
2	Inspect and Rehab one well- \$50,000		\$50,000	\$50,00
2	Lift Gate on at least one service truck- \$10,000		\$10,000	
2	Sheep's Foot Compactor Attachment (\$)		\$20,000	
	Each truck should be equipped with a standardized set of tools-\$1,500-\$3,000		\$3,000	
2	Cool Pines Est Pipe Upgrade (MP)		\$330,200	
	Screen for preparing select backfill from spoils-\$8,000		\$8,000	
1	Strawberry Ranch 3 - Less Allocation to SH3 & ST WM Repl			\$125,00
1	Pine Ranch 3 Booster Station			\$65,00
	Rimwood Area Well			\$130,00
1	Strawberry Ranch 3 Pipeline Upgrade (MP)			\$80,60
2	Field Ofc Rehabilitation			\$50,00
2	Tall Pines Pipeline Upgrade (MP)			\$458,38

CIP (Base) \$468,000 \$468,000 \$4 Grants/Loans \$1,000,000 \$436,000 \$5 Totals \$1,468,000 \$904,000 \$9

Proposed F	Y18 - FY20 C	IP Progams	
Prioity 1 funded from main budget	\$466,818	\$468,000	\$463,60
Priority 2 funded from grants/loans	\$1,000,000	\$415,200	\$558,38
Total CIP Costs	\$1,466,818	\$883,200	\$1,021,98

Excess/Shortfall \$1 192 \$20 900 (\$47.0



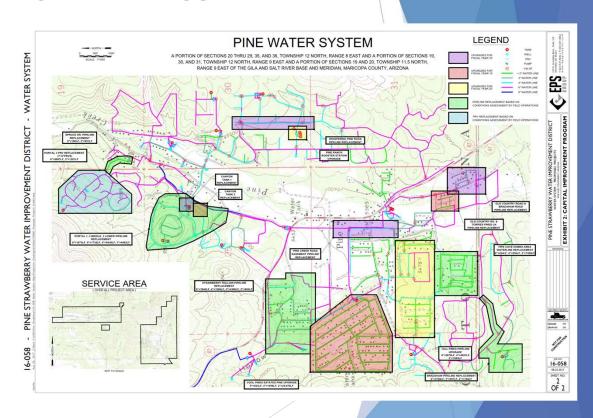
- ► AS PART OF THE LOAN APPLICATION WIFA REQUIRES THE APPLICANT TO DEVELOP A PRELIMINARY PROGRAM DEMONSTRATING HOW THE LOAN PROCEEDS WOULD BE APPLIED TO SOLVE THE ISSUES WITHIN THE SYSTEM.
- ► USING THE CONDITION ASSESSMENT DATA NOTED EARLIER, STAFF, IN CONJUNCTION WITH EPS AND EUSI, PREPARED A PRELIMINARY PROJECT LIST THAT IDENTIFIED A SERIES OF PROJECTS THAT WOULD HELP ADDRESS THE ISSUES NOTED IN THE ASSESSMENTS. THE GRAPHIC ON THIS PAPER IS ONE SHEET FROM THE LIST. THE INITIAL GROUP OF PROJECTS ARE DIRECTLY FROM THE DISTRICT FY18/20 CIP.

WIFA Loan App: Preliminary PSWID System Rehab Needs Program Listing & Cost Est

Project	Project Name	Sub-District	Туре	Quanity	Program Unit Costs	Program Costs	Accum Program Costs	Program Year	Condition Assessment	Priority for Execution
0										1
1	Milk Ranch Wells 1, 2, & 3 Reduced Pumping Rate Testing	Pine	Well	1	\$10,818	\$10,818	\$10,818	FY18 CIP	Yellow	1
2	Magnolia/Ralls- WM & VFD Installation	Strawberry	VFD	1	\$32,000	\$32,000	\$42,818	FY18 CIP	Red	1
3	Circle Drive Water Line Replacement - Installation (2745' - 3")	Strawberry	Pipe	2,745	\$98	\$270,000	\$312,818	FY18 CIP	Red	1
4	Strawberry View 1 Tank Replacement	Strawberry	Tank	1	\$150,000	\$150,000	\$462,818	FY18 CIP	Red	1
5	Inspect and Rehab well- \$50,000	Pine	Well	1	\$50,000	\$50,000	\$512,818	FY18 CIP	Yellow	1
6	Valve Replacement - (3 Year Program \$40k/yr)	Both	Pipe	3	\$40,000	\$120,000	\$632,818	FY18 CIP	Yellow	1
7	Canyon Tank 1 Replacement (Worst tank in system)	Pine	Tank	1	\$160,000	\$160,000	\$792,818	FY18 CIP	Red	1
8	Whispering Pines (2000' - 6")	Pine	Pipe	2,000	\$126	\$252,000	\$1,044,818	FY18 CIP	Red	1
9	Pine Creek Easement (Ellison to North Rd))	Pine	Pipe	1,400	\$100	\$140,000	\$1,184,818	FY18 CIP	Red	1
10	Old County Rd & Bradshaw Rd	Pine	Pipe	2,510	\$112	\$280,000	\$1,464,818	FY18 CIP	Red	1
11	Rehabilitation/Repair Of The Portals II Summit Drive Water Tank Building	Pine	Misc	.1	\$20,000	\$20,000	\$1,484,818	FY18 CIP	Yellow	1
12	Canyon Tank 2 Rehabilition	Pine	Tank	1	\$110,000	\$110,000	\$1,594,818	FY19 CIP	Yellow	2
13	Old County Rd & Torries Pines Ln	Pine	Pipe	2,450	\$125	\$306,000	\$1,900,818	FY19 CIP	Yellow	2
14	Inspect and Rehab one well-\$50,000	Pine	Well	1	\$50,000	\$50,000	\$1,950,818	FY19 CIP	Yellow	2
15	Cool Pines Est Pipe Upgrade (MP)	Pine	Pipe	27,257	\$110	\$2,998,270	\$4,949,088	FY19 CIP	Yellow	2
16	Pine Ranch 3 Booster Station	Pine	Booster	1	\$65,000	\$65,000	\$5,014,088	FY20 CIP	Yellow	3
17	Rimwood Area Well	Strawberry	Well	1	\$130,000	\$130,000	\$5,144,088	FY20 CIP	Yellow	3
18	Strawberry Ranch 3 (Cedar & Juniper) Pipeline Upgrade (MP)	Strawberry	Pipe	3,124	\$110	\$343,640	\$5,487,728	FY20 CIP	Yellow	3
19	Field Ofc Rehabilitation	Pine	Misc	1	\$50,000	\$50,000	\$5,537,728	FY20 CIP	Yellow	3
20	Tall Pines Pipeline Upgrade (MP) [\$352,555 (MP) * 130% = \$458,380]	Pine	Pipe	15,798	\$110	\$1,737,780	\$7,275,508	FY20 CIP	Yellow	3
21	Portal 3 PRV Replacement	Pine	Pipe	8	\$45,500	\$364.000	\$7,039,568	FY18 CA	Yellow	4
22	Spruce Dr WM Replacement	Pine	Pipe	1,050	\$110	\$115,500	97/755.000	FY18 CA	Yellow	4
22	Strawberry WM Replacement	Pine	Pipe	1,050	\$110	\$115.500	57:870.508	FY18 CA	Yellow	4



- WIFA SUBSEQUENTLY ASKED FOR ADDITIONAL DETAILS ABOUT PROJECT PRIORITIZATION AND IMPLEMENTATION SCHEDULES.
- STAFF RECENTLY FINISHED THAT WORK AND WILL BE FORWARDING IT TO WIFA. IT IS INCLUDED AS PART OF THIS PRESENTATION.
- THE GRAPHIC TO THE RIGHT DEPICTS THE LIMITS AND SCOPE OF THE PROJECTS THAT ARE IN THE PINE SERVICE AREA.





PROGRAM OVERVIEW

- > STAFF IDENTIFIED 68 POSSIBLE PROJECTS BASED ON THE RESULTS OF THE CONDITION ASSESSMENTS.
 - **▶ 20 PIPELINE REPLACEMENT PROJECTS**
 - ▶ 7 TANK REHAB OR REPLACEMENT PROJECTS
 - **▶ 26 BOOSTER PUMP/VFD UPGRADE PROJECTS**
 - ▶ 13 WELL PROJECTS
 - **▶ 2 MISC PROJECTS**
- ▶ 6 OF THE PROJECTS WERE NOT PROGRAMED BECAUSE THE TOTAL COSTS OF THOSE THAT WERE PROGRAMED CAME TO SLIGHTLY OVER THE \$8-MILLION BUDGET. THE FINAL TALLY OF PROJECTS IMPLEMENTED WILL OBVIOUSLY FALL BELOW THAT MARK.

PSWID WIFA Capital Program: Cost Summary

Table 1: Estimated Costs of Proposed Projects by Type & Phase

	Phase 1	Phase 2	Phase 2.	Phase 2.2	Phase 3	Unprogramed	Grand Total
Program Area Totals							
PSWID	\$462,818						\$462,818
Pipe	\$270,000						\$270,000
Tank	\$150,000						\$150,000
VFD	\$32,000				i i		\$32,000
Well	\$10,818						\$10,818
Pipe CMAR			\$978,000	\$1,213,340	\$3,559,490	\$9,621,145	\$15,371,979
Pipe	1		\$978,000	\$1,213,340	\$3,439,490	\$9,621,145	\$15,251,975
Valves		1			\$120,000		\$120,000
Well/Tank CMAR		\$1,788,481			\$470,000		\$2,258,481
Booster		\$535,680					\$535,680
Misc					\$70,000	The state of the s	\$70,000
Tank		\$636,601					\$636,601
VFD		\$336,200				i	\$336,200
Well		\$280,000			\$400,000		\$680,000
Grand Total	\$462,818	\$1,788,481	\$978,000	\$1,213,340	\$4,029,490	\$9,621,145	\$18,093,274

Table 2: Number of Proposed Projects by Type & Phase

Row Labels	Phase 1	Phase 2	Phase 2.1	Phase 2.2	Phase 3	Unprogramed	Grand Total
PSWID	4						4
Pipe	1						1
Tank	1						1
VFD	1						1
Well	1						1
Pipe CMAR			4	3	6	6	19
Pipe			4	3	5	6	18
Valves					1		1
Well/Tank CMAR		35			10		45
Booster		15					15
Misc	1				2		2
Tank		6	I				6
VFD		10					10
Well		4			8		12
irand Total	4	35	4	3	16	6	68



IMPLEMENTATION BY THE NUMBERS

- ► THE WIFA BOARD MEETS OCTOBER 18TH TO DISCUSS THE VARIOUS PROJECTS AND AGAIN ON THE 25TH FOR THE FORMAL DETERMINATION.
- ► THE DISTRICT SHOULD HAVE AN IDEA OF WHAT WIFA STAFF IS PROPOSING A WEEK OR SO BEFORE THE 18^{TH.}
- ► IF SUCCESSFUL, LOAN DOCUMENTS WILL BE PROVIDED FOR EXECUTION, EXPECTED TO BE FULLY EXECUTED BY MIDNOVEMBER. THE DISTRICT CAN REIMBURSE ITSELF FOR PROJECT RELATED COSTS INCURRED ONCE THE LOAN IS FULLY EXECUTED. THIS IS THE CASE EVEN IF THE COSTS WERE INCURRED BEOFRE THE LOAN CLOSING.

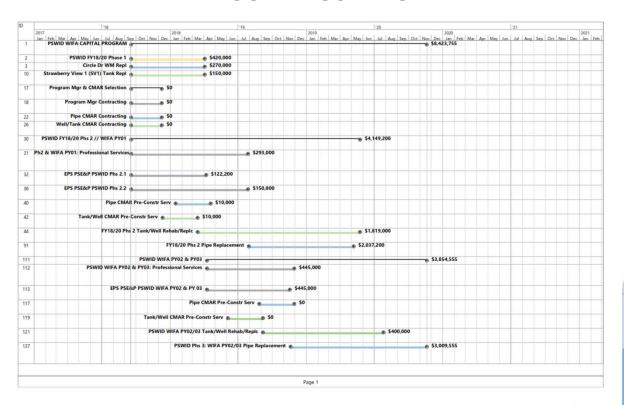


- ► A CONDITION OF THE LOAN IS THAT THE FULL AMOUNT MUST BE SPENT ON PROJECT RELATED COSTS WITHIN 36 MONTHS OF THE LOAN CLOSING.
- ► A CONCERN HAS BEEN THE FEASIBILITY OF EXECUTING ENOUGH CONTRACTS EFFECIENTLY ENOUGH TO MEET THAT REQUIREMENT.
- **\$8M IN 36 MONTHS IS:**
 - > \$266,667/MONTH
 - **\$\$666,667/QUARTER**
 - \$2,666,667 / 12 MINTH PERIOD
- ► STAFF PREFORMED A PRELIMINARY PROGRAM SCHEDULE AND CASH FLOW ANALYSIS OF THE 62 PROJECTS THAT ARE PROPOSED. AS SHOWN IN THE GRAPHIC TO THE RIGHT IT IS QUITE FEASIBLE TO GET THE PROPOSED WORK COMPLETED WITHIN THE REQUIRED 36 MONTH PERIOD.





PRELIMINARY PROGRAM SCHEDULE





EXECUTION BY THE NUMBERS (CONTINUED)

- ► THERE ARE 20 PIPELINE REPLACEMENT PROJECTS PROPOSED THAT MEANS 6+ PER 12 MONTH PERIOD.
 - ► IT IS LIKELY THERE BE AT LEAST ONE, MAYBE TWO PIPELINE PROJECTS UNDERWAY AT ALL TIMES OVER THE 3 YEAR PERIOD. THESE HAVE THE POTENTIAL TO HAVE THE MOST IMPACT ON THE COMMUNITY.
 - ► AS MOST ARE FOCUSED ON INDIVIDUAL NEIGHBORHOODS THAT IS WERE MOST OF THE DISRUPTION OF ROUTINES WILL BE EXPERIENCED.
 - ► THE VAST MAJORITY OF THESE WILL BE COMPLETED IN 3 TO 4 MONTHS. THE LARGER ONES CAN RUN AS LONG AS 9 MONTHS OR MORE.
- WORK ON THE WELLS, TANKS, BOOSTER/VFD SITES WILL TAKE PLACE IN DISTRICT SITES, OWNED OR EASEMENTS, AND SHOULD HAVE LITTLE IMPACT OUTSIDE THE IMMEDIATE AREA OF THE WORK.



PROJECT EXECUTION – ALTERNATIVE DELIVERY METHODS

- MOST MODERN PUBLIC AGENCIES TAKE ADVANTAGE OF PROVISIONS IN STATE LAW THAT ALLOW FOR ALTERNATIVE METHODS OF EXECUTING COMPLEX PROJECTS LIKE THIS ONE RAHTER THAN RELY ON THE TRADITIONAL DESIGN/BID/BUILD ETHOD. WHICH THE DISTRICT HAS **USED AND IN FACT IS USING FOR THE CÍRCLE DRIVE WM** REPLACEMENT AND THE STRAWBERRY VIEW 1 TANK REPLACEMENT PROJECTS. (THESE ARE ADDRESSED IN ARS TITLE 34.)
- THE GRAPHICS TO THE RIGHT PROVIDE A BRIEF SUMMARY OF THE CIRCUMSTANCES FOR WHICH EACH METHOD IS WELL SUITED FOR.
- GIVEN THE RELATIVE COMPLEXITY OF THE PROGRAM. THE TIME SENSITIVITY. AND THE NEED FOR ALL MEMEBRS OF THE DELIVERY TEAM TO WORK CLOSELY TOGETHER, STAFF IS RECOMMENDING THE USE OF THE CMAR METHOD FOR THE PIPELINES, AND A SEPARTE CMAR FOR THE TANKS/WELLS/BOOSTERS/VFD'S.
- STAFF ALSO RECOMMENDS THE DISTRICT RETAIN A PROGRAM MANAGER TO HANDLE THE DAY-TO-DAY MANAGEMENT OF THE PROGRAM AS THERE WILL BE A NEED TO KEEP MANY BALLS IN THE AIR SIMULTAINOUSLY IF THE DISTRICT WISHES TO COMPLETE THE PROJECT WITHIN THE REQUIRED TIME FRAME.
- ENGINEERING SERVICES FOR THE PIPELINE PROJECTS WILL BE PROVIDED BY THE DISTRICT'S ENGINEER, EPS, UNDER ONE OR MORE **WORK ORDERS OFF THEIR ANNUAL SERVICES CONTRACT.**

Choose the Right Delivery Method



METHOD	PROJECT TYPE			
Design-Bid-Build (DBB)	Typical streets improvements, storm drains, waterlines			
Design-Build (DB)	Fast tracked projects, speed premium; fixed price – variable scope projects			
Construction Manager at Risk (CMAR)	Buildings; water/wastewater & aviation facilities; complex horizontal jobs			
Job Order Contracting (JOC)	Renovation, remodel, small projects < \$1M			

GOAL: Use the right tool for the job.



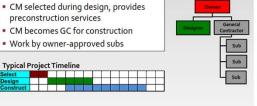


Construction Manager at Risk (CMAR)



Project Organization

- Separate contracts for design and construction
- CM selected during design, provides preconstruction services
- CM becomes GC for construction
- Work by owner-approved subs

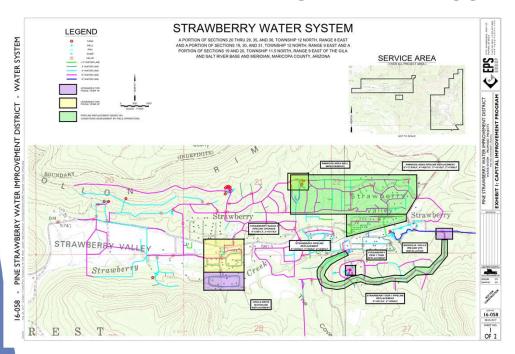


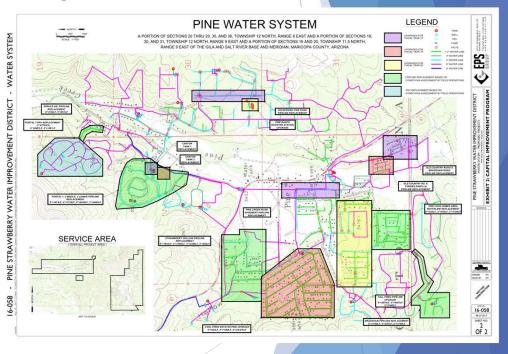


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PSWID WIFA PROGRAM MAPS







QUESTIONS??