



**Training Proposal for:**

**Apprentice & Journeymen Training Trust Fund of the  
Southern California Plumbing and Piping Industry**

**Agreement Number: ET15-0919**

**Panel Meeting of:** February 20, 2015

**ETP Regional Office:** North Hollywood

**Analyst:** M. Reeves

**PROJECT PROFILE**

Contract Attributes:	Retrainee Apprenticeship New Hire Veterans Priority Rate	Industry Sector(s):	Construction  Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura	Repeat Contractor:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Union(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Southern California Pipe Trades District Council 16		
Turnover Rate:	≤20%		
Managers/Supervisors: (% of total trainees)	N/A		

**FUNDING DETAIL:**

<b>Program Costs</b>	+	<b>Support Costs</b>	=	<b>Total ETP Funding</b>
\$604,266		\$45,639 8% (20% Veterans)		\$649,905

<b>In-Kind Contribution:</b>	<b>50% of Total ETP Funding Required</b>	<b>Inherent</b>
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**TRAINING PLAN TABLE**

Job No.	Job Description	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Retrainee Apprentice LA Steamfitters JATC	Commercial Skills	33	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
2	Retrainee Apprentice LA Metro Plumbers JATC	Commercial Skills	33	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
3	Retrainee Apprentice Orange Co. Plumbers JATC	Commercial Skills	31	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
4	Retrainee Apprentice Glendale Plumbers JATC	Commercial Skills	30	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
5	Retrainee Apprentice San Bernardino /Riverside Co. Plumbing JAC	Commercial Skills	31	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
6	Retrainee Apprentice Pomona Plumbers JAC	Commercial Skills	24	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
7	Retrainee Apprentice San Diego/Imperial Co. Pipe Trades JAC	Commercial Skills	25	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
8	Retrainee Apprentice Sprinkler Fitters 709 JAC	Commercial Skills	7	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
9	Retrainee Apprentice Ventura Co. Plumbing JAC	Commercial Skills	5	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
10	Retrainee Apprentice SLO Co. Plumbing JAC	Commercial Skills	7	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			

11	Retrainee Apprentice Santa Barbara Co. Pipe Trades JAC	Commercial Skills	5	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
12	Retrainee Apprentice Kern/Inyo/Mono Co. Plumbing JATC	Commercial Skills	7	8-200	0	\$2,002	\$20.55
				Weighted Avg: 144			
13	Retrainee Journeymen Priority Rate	Commercial Skills, Computer Skills, Continuous Imp.	89	8-200	0	\$1,411	\$41.68
				Weighted Avg: 60			
14	New Hire Veterans Pre-Apprentice	Commercial Skills	5	8-375	0	\$9,570	\$20.55
				Weighted Avg: 375			

**Minimum Wage by County:** \$20.55 per hour Statewide (Priority Industry).

**Health Benefits:**  Yes  No This is employer share of cost for healthcare premiums – medical, dental, vision.

**Used to meet the Post-Retention Wage?:**  Yes  No  Maybe

Although employers provide health benefits, they are not being used to meet Post-Retention Wage.

Wage Range by Occupation		
Occupation Titles	Wage Range	Estimated # of Trainees
<b>Job Numbers 1-12</b>		
Apprentice Plumber & Pipefitter		238
<b>Job Number 13</b>		
Journeymen Plumber & Pipefitter		89
<b>Job Number 14</b>		
Veteran/Pre-Apprentice Plumber & Pipefitter		5

**INTRODUCTION**

Founded in 1959, the Apprentice & Journeymen Training Trust Fund of the Southern California Plumbing and Piping Industry (P&P Trust) ([www.ajtraining.org](http://www.ajtraining.org)) provides training for workers in the plumbing and pipefitting industry. The Trust was established by unions and contractors and is governed by a joint labor-management committee.

Union representation is through District Council 16 of the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada. P&P Trust operates training on behalf of 12 apprenticeship program sponsors:

- San Diego & Imperial Counties Pipe Trades JAC
- Los Angeles Metropolitan Plumbers JATC
- Glendale, Burbank, San Fernando Valley & Antelope Valley Plumbers & Pipefitters JATC
- San Bernardino & Riverside Counties Plumbing & Steamfitter Trade JAC
- Kern, Inyo & Mono Counties Plumbing, Pipefitter & Refrigeration/A/C Mechanic JATC
- Santa Barbara County Pip Trades JAC
- Orange County Plumbers & Steamfitters JATC
- Pomona and San Gabriel Valleys Plumbers & Steamfitters JAC
- Sprinkler Fitters UA Local 709 JAC
- San Luis Obispo County Plumbing JAC
- Los Angeles Metropolitan Plumbers JAC
- Los Angeles Steamfitters JATC

Each of the apprentice Job Numbers 1-12, represents a program sponsor, and each is below the funding cap of \$300,000 per program sponsor.

P&P Trust is responsible for training approximately 2,000 Apprentices and 12,000 Journeymen workers throughout Southern California. Members are employed by plumbing and mechanical contractors, building and plant owners, utility contractors, shipbuilders, manufacturing companies, chain stores, air and water balance companies, power plants, hospitals, and refineries. The Apprentices and Journeymen work at a variety of job sites that include power stations, commercial establishments, offshore oil rigs, pipelines, airports, shipyards, and fabrication shops. Through P&P Trust, trainees are taught installation and service of drainage systems, pipe fabrication and assembly, electronic control work, appliance repair, and operation of mechanical systems.

P&P Trust representatives indicate there is a national shortage in the plumbing and pipefitting industry. Individuals (baby boomers) are retiring in large numbers and employers often find it difficult to find high-skilled craftsmen to fill these specialized jobs. Many in this field are also being called upon to work on various "green" projects which require workers who are familiar with these standards. As a result, there is high demand for workers trained in "green" building technologies and procedures.

ETP-funded training will expand the skill sets of Journeymen and Apprentices. Workers will receive training in Green Awareness, as well as earn certifications in Pipefitting and Plumbing skills. P&P Trust will also include Continuous Improvement and Computer Skills topics to help trainees improve in areas such as communication and problem solving.

### **Apprenticeship Pilot**

The Panel is authorized to fund Apprentice training that does not displace any other source of government funds, or replace an existing apprenticeship program approved by the Division of Apprenticeship Standards (DAS). The Panel provides reimbursement for the Related and Supplemental Instruction (RSI) portion of an apprenticeship training program. RSI is delivered as class/lab training that is developed with a Local Educational Agency (Los Angeles Unified School District) and approved by DAS. The program provides reimbursement for 200 hours of RSI plus OSHA 10. However, in this proposal, the JATC has not requested OSHA 10 training. All training will be class/lab.

For the building trades, where it is not customary for workers to be employed for 90 consecutive days with one employer, the Panel may substitute hours worked for retention. The modified

retention period must be no less than 500 hours within 272 days with more than one employer. P&P Trust is requesting this modified retention period.

To ensure ETP does not displace Montoya Funds, Apprenticeship Pilot reimbursement is reduced by \$5.00, reducing the priority industry rate from \$18.00 to \$13.00 per hour. The ETP wage for Apprentices will be \$20.55 per hour. This is the Special Employment Training Statewide wage as modified for priority industries which is being used for all apprentice occupations, for ease of administration.

### **DAS Retention Rates**

The average completion rate for apprentices in the Plumbing & Pipefitting industry is 48% as measured by DAS over the most recent five-year reporting period: CY 2009 through CY 2013. When the average completion rate for an apprenticeship program is less than half the industry average, the Panel requires a justification for funding.

In this proposal, with 12 individual program sponsors, the overall average completion rate for the pertinent five-year period is 41%. This is well over the industry benchmark of 24%.

Furthermore, there is no record of DAS audit or sanction against any of the individual program sponsors due to poor completion. Given this, and the fact that P&P Trust has performed at 100% in three prior contracts and is on track for 100% in the active contract, staff believes there is sufficient justification.

## **PROJECT DETAILS**

### **Training Plan**

Specialized training will be provided for trainees in valve repair, welding, industrial rigging, green technology, refrigerant handling, foreman skills, and instrumentation. Training funded under this Agreement will lead to certifications that are recognized nationally in the pipe trades. Training is scheduled to begin in March 2015 and end approximately 12 months later.

**Commercial Skills (95%)** - Training will be offered to all occupations to help workers develop high skill levels in the piping and plumbing industry. Training modules will include Plumbing Fixtures and Controls, Rigging, Maintenance, Water and Drainage Systems, and Green Awareness.

**Computer Skills (2.5%)** - Training will be offered to Journeymen in computer software programs. Training will cover 3-D Drawings and Project Management Software.

**Continuous Improvement (2.5%)** - Training will be offered to Journeymen to enhance skill sets such as Problem Solving and Communication.

### **LMS**

Staff has approved P&P Trust's use of a Learning Management System for recordkeeping.

### **Veterans Program**

P&P Trust has established a pre-apprenticeship training program for Veterans located at Camp Pendleton. This program, Veterans in Piping, provides training for military personnel who are completing their service and preparing for civilian life in the pipe trades. Under ETP's Veteran's ETP 130 - MEC (10/02/14)

program, the cap on hours for New Hire training may be modified for good cause on a case-by-case basis. Trainees will complete 40 hours of training per week for 18 weeks. Once their military service is completed, they are placed as second year Apprentices.

P&P Trust is requesting an increase in the cap on hours from 260 to 375 per-trainee for the veterans in Job Number 14. This is justified in light of the fact that the veteran trainees will actually receive a total of 720 hours of training, with the balance paid by P&P Trust.

The Panel has established a higher reimbursement rate (\$22) and other incentives for training California veterans. Support costs at 20% have been included to reach participants for this program. As a result of these factors, and the modified cap on hours, the cost per trainee is higher for veterans than for the trainees in Job Numbers 1-13.

### **Impact/Outcome**

Training for Journeymen is designed to earn industry certifications in plumbing, welding, medical gas installation systems, and pipefitting (National Inspection Testing Certifications for Pipefitters and Plumbers).

Training for Apprentices will allow them to advance in pay levels in accordance with management-labor standards for the industry.

### **Marketing and Support Costs**

The Apprenticeship program is marketed through trade associations in the Southern California area, including California Plumbing & Mechanical Contractors Association; Air Conditioning, Refrigeration and Mechanical Contractors Association of Southern California, Inc.; and California Landscape and Irrigation Council.

Employers participate as members of joint apprenticeship training committees and as trustees for the P&P Trust. They are also notified of training through association websites, mailings, and presentations. Training is then designed around the employer's needs and the overall industry demand.

P&P Trust requests 8% support costs (20% for Veterans) to assist in recruitment, employer outreach, and assessment of employer-specific job requirements. Assessments and recruitment will take place throughout the duration of the Agreement. Staff recommends the 8% support costs.

### **Training Coordination**

Training is center-based at training facilities throughout the state and will be delivered by qualified in-house Journeymen staff. Administration will be handled by the Los Angeles Unified School District and Steve Duscha Advisories.

### **Commitment to Training**

Employers will continue to make contributions to the training trust for every hour worked by Apprentices and Journeymen. Safety training is, and will continue to be, provided by the participating employers in accordance with all pertinent requirements under state and federal law.

**RECOMMENDATION**

Staff recommends approval of this proposal.

**ACTIVE PROJECTS**

The following table summarizes performance by P&P Trust under an active ETP Agreement:

Agreement No.	Approved Amount	Term	No. Trainees (Estimated)	No. Completed Training	No. Retained
ET14-0909	\$1,202,139	12/14/13 – 12/13/15	635	1081	397

Based on ETP Systems, 87,723 reimbursable hours have been tracked for potential earnings of \$1,402,699 (116% of approved amount). The Contractor currently has \$358,028 earnings in process for the 397 trainees retained to date, and is projecting final earnings of 100% pending closeout of this Agreement.

**PRIOR PROJECTS**

The following table summarizes performance by P&P Trust under ETP Agreements that were completed within the last five years:

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned \$ %
ET13-0901	Compton	09/04/12 – 09/03/14	\$698,826	\$698,826 (100%)
ET11-0234	Compton	05/02/11 – 05/01/13	\$398,680	\$398,680 (100%)
ET09-0502	Compton	04/04/09 – 04/03/11	\$535,908	\$535,908 (100%)

**DEVELOPMENT SERVICES**

Steve Duscha Advisories in Sacramento assisted with development of this proposal for a flat fee of \$10,000.

**ADMINISTRATIVE SERVICES**

Steve Duscha Advisories and the Los Angeles Unified School District in Los Angeles will perform administrative services for a fee not to exceed 13% of payment earned.

**TRAINING VENDORS**

N/A

## **Exhibit B: Menu Curriculum**

Trainees may receive any of the following:

### **Class/Lab Hours**

8-200

### **Journeyman Training**

#### **COMMERCIAL SKILLS**

##### Green Awareness

- ✚ Terms, definitions and technologies
- ✚ Energy efficiency in existing equipment
- ✚ Design and installation of new equipment for energy efficiency
- ✚ Renewable and sustainable fuel sources
- ✚ Water conservation
- ✚ LEED (Leadership in Energy and Environmental Design) standards
- ✚ LEED documentation and rating system

##### Pipe Fitter Certification

- ✚ National Inspection Testing Certification requirements
- ✚ Advanced steam fitting
- ✚ Advanced hydraulics
- ✚ Instrumentation
- ✚ Advanced air conditioning and refrigeration
- ✚ Piping mathematics
- ✚ Welding
- ✚ Rigging

##### Plumber Certification

- ✚ National Inspection Testing Certification requirements
- ✚ Advance sanitary drain and vents
- ✚ Water supply and distribution
- ✚ Advanced fuel piping

##### Backflow Prevention

- ✚ Theory of backflow prevention
- ✚ Design of backflow devices
- ✚ Testing
- ✚ Troubleshooting
- ✚ Maintenance
- ✚ Clean room protocol/orbital welding
- ✚ Clean room technology
- ✚ High purity piping
- ✚ Programming and calculation for orbital welding

### Foreman Training

- ✚ Job site supervisory responsibilities
- ✚ Ordering, tracking, management of material
- ✚ Utilization of manpower
- ✚ Job site scheduling
- ✚ Coordination meetings

### Structural Steel Piping

- ✚ Preparation of metals
- ✚ Welding of structural steel
- ✚ Milling specifications and documentation

### Medical Gas

- ✚ Installation
- ✚ System testing requirements
- ✚ Maintenance
- ✚ Repair
- ✚ Standards
- ✚ Brazing

### Valves

- ✚ Plumbing and piping valve types
- ✚ Identification
- ✚ Proper use of valves
- ✚ Maintenance
- ✚ Rebuilding and replacement procedures

### Industrial rigging

- ✚ Rigging equipment selection
- ✚ Load calculating
- ✚ Center of gravity
- ✚ Lift types

### Blueprint Reading and Drawing

- ✚ Drawing interpretation
- ✚ Installation drawings
- ✚ Isometric drawings
- ✚ Trade coordination

### Service & Repair/Fixtures & Controls

- ✚ Plumbing fixtures
- ✚ Drain cleaning
- ✚ Faucet repair
- ✚ Water heaters
- ✚ Plumbing code

### Basic Instrumentation

- ✚ Basic electricity
- ✚ Tube bending
- ✚ Procedures for installing instruments for process control applications
- ✚ Specific process measuring instruments

### Advanced Instrumentation

- ✚ How to interpret all types of instrumentation drawings
- ✚ Principle of operation
- ✚ Function and configuration of instruments in a system
- ✚ Rapidly identify measured variables in a loop, including temperature, pressure, flow and level
- ✚ Troubleshooting

### Instrumentation for Technicians

- ✚ Principals of operation
- ✚ Functions of instrumentation
- ✚ Calibration
- ✚ Documentation
- ✚ Shutdown systems
- ✚ Controls
- ✚ Fiber optics

### Welding

- ✚ Types of welds
- ✚ Inspection
- ✚ Pipeline welding

### Clean Room Orbital Welding

- ✚ Programming
- ✚ Calculations
- ✚ Welding in high purity piping systems

### Crane Signaling

- ✚ Types of cranes
- ✚ Communication
- ✚ Balance

### Safe Working Conditions (All training supplements required safety training)

- ✚ Foreman responsibility
- ✚ Worker responsibility
- ✚ Scaffolding
- ✚ Fall protection

- ✚ Electrical safety
- ✚ Falling objects
- ✚ Working in confined spaces
- ✚ Working around pipelines
- ✚ Asbestos awareness
- ✚ Lead Awareness

#### Non-metallic Pipe

- ✚ Types of pipe
- ✚ Setup and joining
- ✚ High density polyethylene fusion

#### **COMPUTER SKILLS**

- ✚ Computer literacy for plumbers and pipefitters
- ✚ Working with files
- ✚ Computer-Aided drafting
- ✚ 3-D drawings
- ✚ Using project management software

#### **CONTINUOUS IMPROVEMENT SKILLS**

- ✚ Project management
- ✚ Communications skills
- ✚ Strategic planning
- ✚ Problem solving
- ✚ Quality concepts

#### **Class/Lab Hours**

8-375 Job Number14 Only

#### **Pre-Apprentice/Veterans Training**

#### **COMMERCIAL SKILLS**

- ✚ Working in the pipe trades
- ✚ Rigging
- ✚ Basic math
- ✚ Piping math
- ✚ Hand tools
- ✚ Power tools
- ✚ Basic welding
- ✚ Drawing
- ✚ Science of metals and piping
- ✚ Hydronics for heat transfer in heating and cooling
- ✚ Basic instrumentation
- ✚ Principles of electricity
- ✚ Gas distribution
- ✚ Drainage

- ✚ Water distribution
- ✚ Piping drawing
- ✚ Service and repair
- ✚ Fixtures and controls
- ✚ Design and layout
- ✚ Plumbing code
- ✚ Estimating
- ✚ Basic blueprints
- ✚ Irrigation systems
- ✚ Landscaping

### **Class/Lab Hours**

8-200 Job Numbers 1-12

### **Apprentice Training**

#### **COMMERCIAL SKILLS**

- ✚ Introduction to OSHA
- ✚ Hazard Communication
- ✚ Personal Protective Equipment
- ✚ Material Handling
- ✚ Electrical Safety
- ✚ Tool Safety
- ✚ Scaffold Safety
- ✚ Fall Protection
- ✚ Stairways and Ladders
- ✚ Confined Spaces
- ✚ Mathematics used in the Piping Trades
- ✚ Units of measurement
- ✚ “Rigging” in the Piping Trades
- ✚ Materials, hardware and tools associated with “rigging”
- ✚ Incorporate Units of Measuring and mathematical formulas with “rigging”
- ✚ Use of copper and acetylene torches
- ✚ Gas distribution systems and their components
- ✚ UPC and other administrative authorities
- ✚ Fittings, pipes, appliances and materials
- ✚ Drainage systems and their components
- ✚ Water Treatment
- ✚ Water Treatment & Water Sizing
- ✚ Water Mains & Water Sizing
- ✚ Water Mains & Services
- ✚ Building Water Systems
- ✚ Hot water Supply & Water Sizing

- ✚ Introduction to basic drawing tools, measuring tools and lettering skills
- ✚ Three view, Plan view and Elevation view drawings
- ✚ Graphic symbols for Pipe Fittings and Valves
- ✚ Interpretation of technical diagrams and piping drawings  
Interpretation of isometric drawings
- ✚ Service & Repair/Fixtures & Controls
  
- ✚ Basic electricity, pneumatics, hydraulics and servicing of gas and electrical appliances
- ✚ Failure analysis
- ✚ Advanced Drawing
- ✚ Isometric drawings
- ✚ Drawing structural backgrounds
- ✚ Drawing sleeves on structural backgrounds
- ✚ Drawing sleeves without dimensions
- ✚ Review other trades drawings
- ✚ Design & Layout
- ✚ Isometric drawing of water, water gas, waste and vent systems
- ✚ Plan view drawing of water, gas waste and vent systems
- ✚ Material take-off list for installation
- ✚ Laying out trenches, figure grade and backfill
- ✚ Ordering material for the job site and maintain an inventory
- ✚ Using the Uniform Plumbing Code as a guide to maintaining standardization and safety while installing plumbing systems to meet minimum requirements, with consumer cost in mind.
- ✚ Fundamentals of welding
- ✚ How to strike and maintain an arc with S.M.A.W. process
- ✚ Flat, vertical and overhead positions with 610 and 7018 welding rod on plate
- ✚ General knowledge of oxy fuel and ARC welding safety
- ✚ Flame cut and bevel pipe
- ✚ Proper use of grinders for welding preparation
- ✚ Welding techniques for plate and pipe
- ✚ Weld rod designations, AMP settings and polarity
- ✚ Creating models and estimating
- ✚ Qualities and role of a leader
- ✚ Using computer-based technologies to manipulate, create, store and retrieve information to express ideas and communicate with others
- ✚ Medical Gas Installer & Brazing

Note: Reimbursement for retraining is capped at 200 total training hours per trainee in Job Numbers 1 - 13, and capped at 375 total training hours per trainee in Job Number 14, regardless of the method of delivery.