



Training Proposal for:
Northern California Surveyors
Joint Apprenticeship Committee

Agreement Number: ET16-0918

Panel Meeting of: January 22, 2016

ETP Regional Office: San Francisco Bay Area **Analyst:** D. Woodside

PROJECT PROFILE

Contract Attributes:	Retrainee Apprenticeship Priority Rate Veterans	Industry Sector(s):	Construction Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Northern California	Repeat Contractor:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Union(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Operating Engineers Local No. 3		
Turnover Rate:	≤20%		
Managers/Supervisors: (% of total trainees)	NA		

FUNDING DETAIL:

Program Costs	+	Support Costs	=	Total ETP Funding
\$174,048		\$12,056 8%		\$186,104

In-Kind Contribution:	50% of Total ETP Funding Required	Inherent
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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 Priority Rate Apprentice	Commercial Skills	75	8-200	0	\$2,002	\$22.47
				Weighted Avg: 144			
2	Retrainee Priority Rate Journeyman	Commercial Skills	46	8-200	0	\$564	\$32.10
				Weighted Avg: 24			
3	Retrainee Priority Rate Apprentice Veteran	Commercial Skills	5	8-200	0	\$2,002	\$22.47
				Weighted Avg: 144			

Minimum Wage by County: \$21.28 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

Wage Range by Occupation

Occupation Titles	Wage Range	Estimated # of Trainees
Apprentice Surveyor (Chief of Party and Chainman/Rodman)*		80
Journeyman Surveyor (Chief of Party) Journeyman Surveyor (Chainman/Rodman)		46

*The wage range for Apprentices is for Chainman/Rodman (periods 2-4), progressing through to Chief of Party (periods 5-8). Veterans have the same wage range for both occupations.

INTRODUCTION

The Northern California Surveyors Joint Apprenticeship Committee (NCSJAC) (www.ncsjac.org) was established in 1975 as a labor-management committee by the Operating Engineers Local Union 3 and the California and Nevada Civil Engineers and Land Surveyors Association, Inc. (Association). It is funded under the Operating Engineers and Northern California Surveyors Pre-Apprentice, Apprentice, and Journeyman Affirmative Action Training Fund (Fund). The Fund is governed by a 12-member board, six designated by the union and six selected by signatory employers in the Association.

The primary function of the NCSJAC is to provide up-to-date skills training and to secure high-quality job opportunities for surveyors. The signatory employers are surveying, engineering, and/or construction contractors. The trainees are field and construction surveyors, who are members of Operating Engineers Local Union 3. NCSJAC serves 46 Northern California counties from the Oregon border down to and including Fresno. The JAC's administrative office and staff is located in Alameda.

NCSJAC is approved by the Division of Apprenticeship Standards (DAS) as the sponsor of three apprenticeship programs for surveyors:

- 1) Chainman/Rodman
- 2) Chief of Party (advanced skills)
- 3) Instrumentman

ETP will provide funding for the first two of these programs. This will be NCSJAC's third ETP Agreement.

Need for Training

All training is designed to upgrade the skills of Journeyman and prepare all Surveyor Apprentices to use technologically-advanced equipment in commercial and industrial construction, public infrastructure projects, and "green" construction in Northern California. A Surveyor determines the proper location of property lines, makes accurate field measurements, and uses equipment such as global positioning systems and other high-tech equipment to determine the topography of the surface of the earth.

To control rising costs while maintaining workers' wages, the signatory employers must explore new technologies and improve systems to reduce waste. ETP-funded training will enable employers to bid on additional jobs and specialized projects, thus improving job security and reducing periods of unemployment for surveyors.

Work has accelerated in public and private commercial construction jobs such as the San Francisco Trans Bay Terminal, California High Speed Rail project planning, the BART Berryessa Extension, Sacramento Kings Arena, the new Apple Headquarters Campus, Doyle Drive in San Francisco, the Google Campus, several PG&E and SMUD Solar Farms, and Cordes Ranch in Tracy (a 2300 acres Business Park Development). These projects are just some examples of construction projects requiring that the JAC recruit and train more apprentices and journeymen to meet employer needs for qualified surveyors.

Many construction contractors are employing Journeymen and Apprentices who must use 3D laser scanning as a critical component of their survey work. Such training in new technologies has already assisted considerably in creating new job opportunities for Apprentices and Journeymen, and new construction jobs should continue to sustain employment retention.

Veterans

The Panel has established a higher reimbursement rate and other incentives for training California veterans. Higher support costs are also available to reach participants for this program. In this proposal, NCSJAC has committed to training five Veterans in Job Number 3 at the regular apprenticeship rate and without additional support costs. For recruitment purposes, NCSJAC works with United Contractors, a trade association for 270+ union contractors in

Northern California. This association provides resources and support services under its “United for Veterans” program.

Apprenticeship Program

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 adopted the Apprenticeship Training Program as a pilot in March 2012. It is designed to supplement costs of delivery for the Related and Supplemental Instruction (RSI) portion of DAS-approved apprenticeship training.

Apprenticeships are a multi-year training program that results in DAS certification to work as a Journeyman. They are authorized in California under the Shelly-Maloney Apprenticeship Labor Standards Act of 1939. Apprentices commit to training under contract with an apprenticeship program sponsor. They advance through a series of apprenticeship levels as they complete modules of RSI and on-the-job training. Wages are paid for hours worked on the job, in progression with a series of advancements up to the Journeyman level.

Apprentice programs are typically sponsored by a Joint Apprenticeship Training Committee (JATC) or Unilateral Apprenticeship Committee (UAC). A JATC is created through collective bargaining, with an equal number of members appointed by union and management, as compared to a UAC which is created through a trade association. Both types require employer contributions to a training trust fund.

Depending on the type of trade, apprenticeship programs for surveyors vary in length. The two apprenticeship programs are each for a 24-month period split between four periods. Each period requires 72 hours of RSI under a curriculum developed in affiliation with the Castro Valley Adult and Career Education School as the Local Educational Agency (LEA).

In this case, that means Apprentices in the Chainman/Rodman program may be enrolled for ETP funding over an 18-month course of study from Period 2 through Period 4. Apprentices in the Chief of Party program may be enrolled for a 24-month course of study from Period 5 through Period 8.

Apprentices may be certified as Journeymen in the occupation Chainman/Rodman after completing Period 4. The subsequent apprentice periods are equivalent to advanced study, starting at 100% earning of the Journeyman Chainman/Rodman. To continue working as a surveyor, the Journeyman Chainman/Rodman must continue in this advanced apprenticeship.

A Chief of Party graduate may choose to be certified in one or more of five specialty areas: 1) Heavy Construction Surveys, 2) Light Construction Surveys, 3) Topo/Hydro Surveys, 4) Boundary Surveys and 5) Global Positioning System Surveys.

For the building trades, it is not customary for workers to be employed for a standard retention period of 90 consecutive days with one employer. In that instance, the Panel may substitute non-consecutive hours worked for retention. This modified retention period must be no less than 500 hours within 272 days with more than one employer. Both the standard and modified retention periods will apply to this proposal.

Because ETP funding cannot displace another source of government funds, the fixed fee rate is reduced by \$5.00 to account for adult education funding appropriated each year for Apprentice training through the California Community College Chancellor's Office and Department of

Education. This changes the ETP Priority Industry Rate from \$18.00 to \$13.00 per hour for all Apprentice Job Numbers.

In addition, the Panel adopted a “blended rate” for Journeymen, reflecting the fact that they may be employed by a variety of contractors over the two-year term of contract ranging from large employers, to small (≤ 100 employees). This is \$22 per hour, midway between the Priority Industry standard rate (\$18) and Small Business rate (\$26).

Under the Apprenticeship Training Program, the post-retention wage has been standardized to \$21.28 per hour reflecting the Special Employment Training (SET) wage for Priority Industry. This wage was chosen for ease of administration, recognizing that most Apprentices and all Journeymen exceed the highest ETP wage requirements. However, the actual wage is displayed in the Training Plan Table and the ETP Agreement, if it exceeds \$21.28.

PROJECT DETAILS

Training, comprised of class/lab and virtual classroom or E-Learning, may take place at NCJAC’s Alameda headquarters location (Alameda County), as well as at various training sites across Northern California. Training is scheduled to begin in February 2016. All curricula is customized to meet employer needs as determined from input by signatory employers, the union, and the instructors, all of whom are current or retired members of the trade. There is no duplication of training. Trainees never receive the same training twice. Course content is revised as needed to reflect new equipment and techniques available in the surveying trade.

Training Plan

Commercial Skills (100%): Apprentice trainees will receive training in surveying basics, history, tools, trade-related math, data collection, and job-related skills such as leveling. Training for Journeymen will focus on electronic methods which require the use of digital knowledge as well as being trained on advanced topics such as photogrammetric and global positioning systems.

DAS Completion Rates

The retention rate for the apprenticeship program sponsored by NCSJAC was 35.04% for the five-year time period 2009-2013, per DAS records. The Industry Average retention rate for this same time period was 42.19%. Retention rates do not trigger a DAS audit unless the program average is less than 50% of the Industry Average, which is not the case here.

Curriculum Development

Employer and union members of the JAC are also involved in Journeyman and Apprentice training plan design. Employer and worker input are also solicited by JAC staff at labor/management and industry meetings. Curriculum development is further customized based on workplace performance by journeymen and apprentices, the requests of customers, and needs of the industry as well as student course evaluations completed at the end of each course.

Commitment to Training

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

Tuition Reimbursement

In accordance with Title 22, CCR, Section 4412.1, NCSJAC JATC represents that students enrolled in the ETP-funded program will not be charged tuition, fees, or any other costs associated with training. The representation will be made a condition of the Agreement.

Marketing and Support Costs

NCSJAC requests 8% support costs to assist in trainee recruitment, employer outreach and assessment of employer-specific job requirements.

The Apprenticeship program is marketed through the various employer associations in Northern California. Employers are notified of training through association websites, mailings, and presentations. Training is then designed around employer's needs and the overall need of the industry. The JAC will also disseminate class information throughout the year to all Journeyman workers within the local's jurisdiction. Marketing is thus conducted through newsletters, personal contacts, telephone calls, the Internet, emails, and the JAC's website.

Certain employers have already been recruited; however, additional recruitment will take place to complete the project and replace any employers whose training needs change since the project planning process began. Assessment of employer-specific job requirements will continue during the contract term. Staff recommends the 8% support costs used for these purposes.

RECOMMENDATION

Staff recommends approval of this proposal.

PRIOR PROJECTS

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

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned \$ %
ET14-0903	No Cal Counties	11/03/2013 – 11/02/2015	\$178,844	\$178,844 (100%)
ET11-0270	No Cal Counties	06/06/11 – 06/05/13	\$168,140	\$60,781 (36%)

ET14-0903: All training has ended under this Agreement. As of 12/30/15, 86 apprentices and 8 journeymen completed training and employment retention. Based on the ETP tracking system as of 12/30/15, 10,873 reimbursable hours have been tracked (90% of the Agreement amount). The Contractor projects 100% earnings once all training hours are uploaded and the closeout invoice is processed.

ET11-0270: This contract began some nine months before the Panel adopted the Apprenticeship Pilot Program with Journeymen and Pre-Apprentice trainees only. These Journeymen received over 500 hours of ETP-eligible training in total, but many did not satisfy retention due to the continuing downturn in construction. After the Apprenticeship Pilot started, the JAC added an Apprenticeship Job Number to train 65 Apprentices (Chainmen/Rodmen and Chief of Party) along with the original 43 Journeymen and Pre-Apprentices. The JAC earned payment for 39 of the 65 Apprentices, which is significant given there were only 11 months remaining in the term of the contract in which to deliver minimum hours and complete retention.

According to the JAC, this Agreement began just as the economic downturn was still having a significant impact on the construction industry. Apprentices and Journeymen were forced to take jobs outside the construction industry as employers laid off many workers. In its subsequent Agreement ET14-0903 earnings are expected to be 100 percent. Surveyors are in a unique position within the construction industry because they are the first to go to work when the labor market improves, which is what occurred and lead to the success of ET14-0903. This proposal builds on this success and will meet the on-going employer demand for highly-skilled surveyors in Northern California.

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 will perform administrative services for a fee not to exceed 12.2% of payment earned.

TRAINING VENDORS

To Be Determined

Class/Lab Hours

8-200

Exhibit B: Menu Curriculum

Trainees may receive any of the following:

COMMERCIAL SKILLS

Apprentice Surveyor: Chainman/Rodman

- Introduction to Computers
- Solving Equations Part 2
- Metric Systems/Conversions
- Algebra I
- Geometry
- Angles
- Introduction To Traverse
- Rectangular Coordinates System
- Algebra II
- Trigonometry
- Oblique Triangles
- Circle Solutions
- Latitude, Departure and Coordinates
- Traverses-Methods and Procedures
- Traverse-Precision
- Traverse Lines
- Horizontal Curves
- Vertical Curves
- Data Collection System
- Safety-Heat Stress

Apprentice Surveyor: Chief of Party

- Area By Coordinates
- Omitted Measurement
- Partitioning Of Land
- Topographic Surveying and Mapping
- Photogrammetric Surveys
- Safety Training Review
- Construction Control Surveys
- Construction and Section
- Highway Construction Surveys
- Municipal Street Construction
- Earthwork and Volume
- Introduction/History Boundary Surveying
- Functions Boundary Survey
- Legal Description/Easements
- Boundary Retracement/Pre Steps

COMMERCIAL SKILLS

Journeyman Training

- 3D Laser Scanning
- Latest Techniques in Leveling including Digital
- Advanced Survey Calculator
- In-depth Plan Reading
- Advanced Global Positioning System/Global Navigation Satellite Systems
- Photogrammetry
- Robotics
- Boundary Retracement

E-Learning Hours

8-200

COMMERCIAL SKILLS

Apprentice Surveyor: Chainman/Rodman

- Introduction to Computers
- Solving Equations Part 2
- Metric Systems/Conversions
- Algebra I
- Geometry
- Angles
- Introduction To Traverse
- Rectangular Coordinates System
- Algebra II
- Trigonometry
- Oblique Triangles
- Circle Solutions
- Latitude, Departure and Coordinates
- Traverses-Methods and Procedures
- Traverse-Precision
- Traverse Lines
- Horizontal Curves
- Vertical Curves
- Data Collection System
- Safety-Heat Stress

Apprentice Surveyor: Chief of Party

- Area By Coordinates
- Omitted Measurement
- Partitioning Of Land
- Topographic Surveying and Mapping
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- Safety Training Review
- Construction Control Surveys
- Construction and Section
- Highway Construction Surveys
- Municipal Street Construction
- Earthwork and Volume
- Introduction/History Boundary Surveying
- Functions Boundary Survey
- Legal Description/Easements
- Boundary Retracement/Pre Steps

Journeyman Training

- 3D Laser Scanning
- Latest Techniques in Leveling including Digital
- Advanced Survey Calculator
- In-depth Plan Reading
- Advanced Global Positioning System/Global Navigation Satellite Systems
- Photogrammetry
- Robotics
- Boundary Retracement

Note: Reimbursement for retraining is capped at 200 total training hours per trainee, regardless of the method of delivery.