Appendix A

WORK PROCESS SCHEDULES

AND

RELATED INSTRUCTION OUTLINE

Northern Nevada Operating Engineers Local #3 JAC

Survey Technician

O*NET-SOC CODE: 94-6104798 RAPIDS CODE:

0551

APPROVED BY
THE NEVADA LABOR COMMISSIONER AND THE NEVADA STATE APPRENTICESHIP COUNCIL

Richard J. Williams, Nevada State Apprenticeship Director

REGISTRATION DATE: _____

RAPIDS PROGRAM ID NUMBER: NV00267002

DEVELOPED IN COOPERATION WITH THE
THE NEVADA LABOR COMMISSIONER, THE NEVADA STATE APPRENTICESHIP COUNCIL, AND
THE U.S. DEPARTMENT OF LABOR

Appendix A

WORK PROCESS SCHEDULE

This schedule is attached to and a part of these Standards for the above identified occupation.

1. TYPE OF OCCUPATION

☒ Time-based ☐ Competency-based ☐ Hybrid

2. TERM OF APPRENTICESHIP

The term of the occupation shall be defined by the attainment of all competencies of the position. 1) If the program uses a time-based approach, requires the completion of not less than 2,000 hours of [work experience,] on-the-job learning, consistent with training requirements as established by practice in the trade; (2) If the program uses a competency-based approach, specifies the skills that must be demonstrated by an apprentice and addresses how on-the-job learning will be integrated into the program; or (3) If the program uses a hybrid approach, specifies the skills that must be acquired and the minimum number of hours of on-the-job learning that must be completed by an apprentice.

This would be expected to occur within approximately 4000 hours (must be at least 2,000 hours) of OJL, supplemented by the minimum of 144 hours of related instruction per year of the apprenticeship.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey worker/fully trained worker ratio is: 1 apprentice(s) to 5 journey worker/fully trained worker(s).

4. APPRENTICE WAGE SCHEDULE

An apprentice minimum starting wage will be at least $ 15.26 per hour. Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey worker/fully trained worker wage. A journey worker/fully trained worker minimum wage will be at least $ 23.48 .

1-Year Term Example:

1st 6 months = % or $ 2nd 6 months = % or $

Periodic review and evaluation of the apprentice's on-the-job learning and related technical instruction will be conducted in alignment with the wage schedule established.

5. **WORK PROCESS SCHEDULE** (See attached Work Process Schedule)

The sponsor may modify the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

6. **RELATED INSTRUCTION OUTLINE** (See attached Related Instruction Outline)

The sponsor may modify the related instruction to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

Appendix A

WORK PROCESS SCHEDULE

The term of the occupation shall be defined by the attainment of all competencies, both technical and behavioral, of the position, which would be expected and approximated to occur within 4000 hours of OJL, supplemented by a minimum of 144 hours of related instruction per year of apprenticeship.

Apprenticeship Competencies – Technical

Item	Work Processes	Approx. Hours
A	Apprentice I, use and care of tools such as shovels, pick axes, mauls, chisels, hammers etc.., survey equipment, and safety practices	1000
B	Apprentice II, hand signals, station systems, setting monuments, benchmarks, setting of proper benchmarks and turning points, and proper marking and placing of guard stakes	1000
C	Apprentice III, use of spring balance, read thermometer, correcting for slope measurements, interpreting stationing from plans, set up level for taking elevations, and operation of reading a level	1000
D	Apprentice IV use of transit in lieu of a level, set up transit over point, reading a vernier, methods and application of staking curves, methods and application of referencing survey control, and observe rules of good public relations	1000
E		
F		
G		
H		
I		
J		
K		
L		
M		
N		
O		
P		
Q		
	Total hours (approximate)	**4000**

The above on-the-job-learning (OJL) work process competencies are intended as a guide. It need not be followed in any sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient

experience to make them fully competent and use good workmanship in all work processes, which are a part of the industry. In addition, the apprentice shall be fully instructed in safety and OSHA requirements.

Apprenticeship Competencies – Behavioral

In addition to mastering all the essential technical competencies, an apprentice must consistently demonstrate at an acceptable level the following behavioral competencies, to complete the apprenticeship.

Item #	Behavioral Competencies
1.	Participation in team discussions/meetings
2.	Focus in team discussions/meetings
3.	Focus during independent work
4.	Openness to new ideas and change
5.	Ability to deal with ambiguity by exploring, asking questions, etc.
6.	Knows when to ask for help
7.	Able to demonstrate effective group presentation skills
8.	Able to demonstrate effective one-on-one communication skills
9.	Maintains an acceptable attendance record
10.	Reports to work on time
11.	Completes assigned tasks on time
12.	Uses appropriate language
13.	Demonstrates respect for patients, co-workers, and supervisors
14.	Demonstrates trust, honesty, and integrity
15.	Requests and performs work assignments without prompting
16.	Appropriately cares for personal dress, grooming and hygiene
17.	Maintains a positive attitude
18.	Cooperates with and assists co-workers
19.	Follows instructions/directions
20.	Able to work under supervision
21.	Able to accept constructive feedback and criticism
22.	Able to follow safety rules
23.	Able to take care of equipment and workplace
24.	Able to keep work area neat and clean
25.	Able to meet supervisor's work standards
26.	Able to not let personal life interfere with work
27.	Adheres to work policies/rules/regulations

RELATED INSTRUCTION OUTLINE

The related instruction has been developed in cooperation with employer-partners as part of the apprenticeship. The following is a set of courses to be delivered by subject matter experts.

Related Technical Instruction (RTI) - This instruction shall include, but not be limited to, at least 144 hours per year for each year of the apprenticeship. The related theoretical education listed below is tightly integrated with real work product. The curriculum is defined as a variety of classes, around which the exams and projects are based. By defining the RTI this way, all competencies required of the students are met, through project work.

COURSE TOPICS	HOURS
A. Introduction to Apprenticeship/ basic tools & terms for Surveyors	40
B. Basics/Geometry/Trigonometry/ Intro to Modern Equipment Calculators	60
C. Application of Math to field Problems/ Advanced Field Use of Equipment	60
D. Highway Curves & Route Location/Plan Reading & Interpretation	40
E. Applying Basics of Topographic, Boundary & Construction Survey	40
F. First Aid/CPR	8
G. Hazmat (Hazardous Materials Handling Awareness)	40

COURSE TOPIC DESCRIPTIONS

A. Introduction to safety and safe operation of equipment. Survey nomenclature and terms

B. Introduction to Math formulas and their application for in Surveying

C. Using Math formulas with levels, transits, theodolites, and GPS

D. Reading and understanding symbols, notes, measurements, and mathematics

E. Understanding deflection angles and alignment of roads, horizontal and vertical curves. Defining the corners of a parcel of land, staking property corners

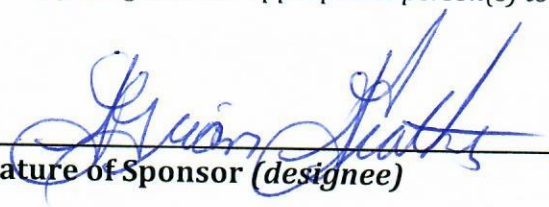
F. Instruction on lay responder to accidents and emergencies

G. Understanding of hazardous chemicals and environments

SECTION 27 - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS

Program Sponsor Name hereby adopts these standards of apprenticeship.

Sponsor(s) designate the appropriate person(s) to sign the standards on their behalf.



Signature of Sponsor *(designee)* **Date:** 9/30/2022

Brian Prather
Type Name & Title