



Job Analysis

Job Title: PCS Iron Worker **Worker:** _____
DOT Number: 801.361-014 **Claim Number:** _____
Employer: Port of Seattle **Employer Phone #:** 206-787-5831
Employer Contact: Terry Dix **Date of Analysis:** May 30, 2013

Job of Injury Previous Job New Job 8 Hours Per Day 5 Days Per Week

Job Description, Essential Functions, Tasks and Skills

The Port of Seattle is a municipal corporation created on September 5, 1911 by the voters of King County. The Port of Seattle is divided into operating divisions, plus other departments that support the divisions and the broad mission of the Port:

- 1) Aviation Division
- 2) Capital Development Division
- 3) Corporate Division
- 4) Real Estate Division
- 5) Seaport Division



This job analysis is for Ironworker within the Port Construction Services (PCS) group of the Capital Development Division. PCS employs tradesmen specializing in specific trades: Laborers, Teamsters, Operating Engineers, Carpenters, Pile Bucks, Iron Workers, Millwrights and Cement Masons. There are times when a specific skill set is not immediately required on a project, so workers assist in other trades with selected basic tasks.

The primary responsibility of an Iron Worker is to perform all work in connection with shop and field fabrication, erection, installation and construction of structural, ornamental and reinforcing steel and iron for Port of Seattle facilities, structures, infrastructure, rigging and machines including steel columns, beams, girders, reinforced concrete, repair and renovation of older buildings and structures. May cut, weld, fit, fabricate, and piece together metal structural materials.

Assigned Tasks

- Lay out raw steel, cut, bend, bolt, and weld each piece according to requirements.
- Construct steel columns, beams, and girders according to blueprints or instructions from supervisors.
- Set up hoisting equipment for moving structural steel.
- Unload and stack the fabricated steel so it can be hoisted.
- Attach cables from a crane or derrick to the steel pieces. Direct the hoist operator with hand signals. Hold a rope attached to the steel.
- Align holes in the steel with holes in the framework.
- Bolt the pieces in place. Check alignment with levels, lasers, or plumb bobs. Bolt or weld pieces permanently in place.
- Follow blueprints showing the location, number, and size of reinforcing bars.
- Fasten the bars together by tying wire around them with pliers.
- Place blocks under reinforcing bars to reinforce floors.
- May cut, bend, or weld bars at the job site, using metal shears, torches, or welding equipment.
- Position ornamental ironwork on the outside of buildings. Check fit. Bolt, braze, or weld them into place.
- Fabricate and assemble structural metal products, such as metal tanks. Assemble metal parts for



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bridges and prefabricated metal buildings.

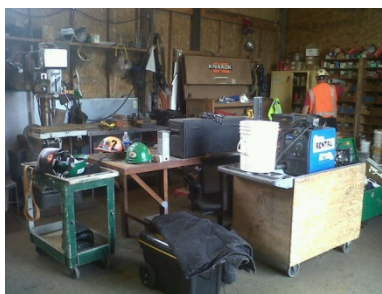
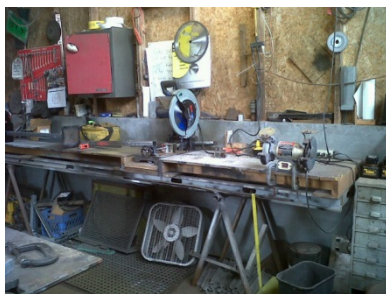
- Install metal window stools and sills.
- Set rigging, chokers and shakes.
- Examples of types of projects: rebuild steel cabinets that frame reader boards in airport terminals; build metal structure to hold and hang electrical plug ins for ground service equipment parking spaces for electrical vehicles; metal canopy over pier terminal walkway, assemble and repair aluminum walkways.

Skills and Abilities

- Excellent technical skills in their selected trade.
- Knowledge of materials, methods, and tools used in the construction industry.
- Physical ability to accomplish all assigned tasks.
- Good eyesight, hand-eye coordination, and manual dexterity.
- Ability to work both independently and within a team as required.
- Ability to follow directions closely and be detail oriented.
- Ability to identify the best way to accomplish a task, and complete the assigned task in a timely and efficient manner.
- Ability to work in a safe manner in any kind of weather.
- Ability to read and understand materials, plans, blueprints and other written documentation.
- Ability to install equipment, machines, and work products to meet specifications.
- Ability to compute mathematical equations including arithmetic, algebra, geometry and statistics.
- Knowledge of designing, using and repairing machines and tools.
- Knowledge of making and using plans, blueprints, drawings and models.

Machinery, Tools, Equipment, Personal Protective Equipment

- Come-a-long, chain hoist, C-clamps, wrenches, welders, cutting torch, grinders, band saw, drill press, drill motors, tool belt, rigging, forklift, man lift, scissor lift, scaffolding.
- Required personal protective equipment includes safety vest, approved safety boots, hard hats, and full body harness. May also use eye and ear protection, respirators, protective suits, gloves and rain gear.





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Education / Training

Iron Workers are members of the Iron Workers District Council of the Pacific Northwest Local #86. In general, Iron Workers working for PCS are Journeymen level Iron Workers that have successfully completed high school and the apprenticeship program offered through the Union.

Per the Dictionary of Occupational Titles (DOT)

801.361-014 Structural Steel Worker

Specific Vocational Preparation (SVP)

7 (Over 2 years and up to and including 4 years)



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COGNITIVE AND BEHAVIORAL ELEMENTS/DEMANDS

Frequency Definitions	
Continuously = Occurs 66-100% of the time	
Frequently = Occurs 33-66% of the time	
Occasionally = Occurs 1-33% of the time	
Rarely = May occur less than 1% of the time	
Never = Does not ever occur	
Comprehension	
Articulating and comprehending information in conversations.	Frequently
Reading, comprehending, and using written materials.	Frequently
Understanding and solving problems involving math and using the results.	Frequently
Using technology/instruments/tools & information systems.	Frequently
Working with two and three dimensional formats.	Occasionally
Remembering	
Remembering spoken instructions.	Frequently
Remembering written instructions.	Frequently
Remembering visual information.	Frequently
Recalling information incidental to task at hand.	Frequently
Memorizing facts or sequences.	Frequently
Remembering simple instructions.	Frequently
Remembering detailed instructions.	Frequently
Learning	
Effectively learning and mastering information from classroom training.	Occasionally
Effectively learning and mastering information from on-the-job training.	Frequently
Learning from past directions, observations, and/or mistakes.	Frequently
Using common sense in routine decision making.	Frequently
Recognizing and anticipating potential hazards and taking precautions.	Occasionally
Thinking critically and making sound decisions.	Frequently
Integrating ideas and data for complex decisions.	Frequently
Determining and following precise sequences.	Frequently
Coordinating and compiling data and information.	Occasionally
Analyzing, synthesizing data and information.	Occasionally
Tasking and Planning	
Performing repetitive or short-cycle work.	Frequently
Working under specific instructions.	Frequently
Completing complex tasks.	Occasionally
Directing, controlling, or planning for others as necessary for basic tasks.	Frequently
Directing, controlling, or planning for others as necessary for complex tasks.	Frequently
Multi-tasking.	Frequently
Planning, prioritizing, and structuring daily activities.	Frequently
Use Appropriate Behavior for Professional Work Environment	
Receiving criticism and accepting limits appropriately.	Occasionally
Maintaining emotional control and organization under increased stress.	Occasionally



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Maintaining socially appropriate affect, temperament, and behavior.	Continuously
Monitoring own quality of performance and altering behaviors to correct mistakes or improve outcome.	Continuously
Working independently and/or unsupervised.	Frequently
Adapting to frequent interruptions, changes in priorities, or changes in work location.	Frequently
Responding effectively to emergency situations.	Occasionally

Frequency Designations	
Required	
Beneficial	
Not Necessary	
Maintaining Attendance and An Assigned Work Schedule	
Maintaining predictable and reliable attendance each work shift.	Required
Being punctual.	Required
Taking rest periods at set times or only at times determined by breaks in job responsibilities.	Required
Adjusting to a flexible schedule of work days and or shifts.	Required
Working overtime as needed	Beneficial



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PHYSICAL DEMANDS

Constant: Constant (Over 70% of the time) Frequent: Frequent (30%-70% of the time) Occasional: Occasional (10-30% of the time) Seldom: Seldom (1-10% of the time) WNL: Within Normal Limits (talking, hearing, etc.) N/A: Not Applicable					
STRENGTH:	<input type="checkbox"/> Sedentary	<input type="checkbox"/> Light	<input type="checkbox"/> Medium	<input checked="" type="checkbox"/> Heavy	<input type="checkbox"/> Very Heavy
Action		Frequency	Comments		
Sitting		O	Operate machinery.		
Standing		F	Interchange with walking.		
Walking		F	Interchange with standing.		
Lifting (up to 10 pounds)		F	Power and hand tools, lengths of pipe.		
Lifting (11 to 25 pounds)		F	Power and hand tools, steel girders and sheets, rebar.		
Lifting (26 to 50 pounds)		F	Steel girders and sheet, rebar.		
Lifting (51 to 75 pounds)		F	Steel girders, sheets angle iron, rebar.		
Lifting (76 to 100 pounds)		O	Bags of concrete (60#); rolls of chain link fencing (to 75#), wooden fencing panel (80#), chunks of concrete broken up by backhoe (up to 100#), bags of cement (93#), hay bales (80#), lengths of pipe.		
Carrying (up to 10 pounds)		F	Power and hand tools, lengths of pipe.		
Carrying (11 to 25 pounds)		F	Power and hand tools, steel girders and sheets, rebar.		
Carrying (26 to 50 pounds)		F	Steel girders and sheet, rebar.		
Carrying (51 to 75 pounds)		F	Steel girders, sheets angle iron, rebar.		
Carrying (76 to 100 pounds)		O	Bags of concrete (60#); rolls of chain link fencing (to 75#), wooden fencing panel (80#), chunks of concrete broken up by backhoe (up to 100#), bags of cement (93#), hay bales (80#), lengths of pipe. NOTE: Heavy items can generally be lifted/moved using a forklift or hoist.		
Pushing/Pulling (up to 10 pounds of force)		F	Operating machinery (steering wheels and levers used to move and operate the equipment), open and close doors on machines, Performing cross-trade work: shovel, operate saws, unroll chain link fencing, guide objects suspended by a lift or crane, and demolition.		
Pushing/Pulling (25 to 50 pounds of force)		O-F	Same as push/pull up to 10 pounds.		
Pushing/Pulling (10 to 20 pounds of force)		F	Fitting and or placing structural components for fastening or welding.		
Climbing Ladders/Stairs		O	Fitting and or placing structural components for fastening or welding.		
Working at Heights/Balancing		O-F	May work on or from a ladder or man lift.		
Bending at Waist		F	Enter, operate, and exiting equipment, performing cross-trade work.		
Bending Neck		C	Operating equipment, performing cross-trade work.		
Reaching (up to shoulder level)		F	Open equipment doors, reach to grab to get into equipment, use levers and steering wheel to operate machinery, with cross-trade tasks such as guiding objects suspended by a lift or crane, demolition, digging, and sweeping.		



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Reaching (over shoulder level)	O-F	Open equipment doors (taller door handles are up to 72" from ground), reach to grab to get into equipment, , reach 2-way radio mounted to ceiling of cab, disconnect carry items on shoulder, gather items from a rack or shelf.
Stooping	O	Fitting, welding or cutting from stooping position, perform cross-trade work.
Kneeling/Squatting	O	Fitting, welding or cutting from a kneeling or squatting position, perform cross-trade work.
Crawling	S	Crawling into or out of tight spaces to access worksites.
Repetitive Motion	S-F	Depends on assigned task. Worker may be assigned a task that requires no repetitive motion, or a task that requires sustained use of the arms to repeatedly dig or scoop dirt using levers and controls to operate machinery.
Twisting at Waist	O-F	Twisting to remove, place, or fit structural members for welding.
Handling/Grasping	C	20% pinch grasp; 80% whole hand grasp.
Fine Finger Manipulation	O	Using switches and toggles on equipment; 2-way radios and cell phones, writing, using hand tools, pulling triggers on power tools, tying ropes.
Driving	O	Operate equipment and machinery.
Foot Controls	O	Operating equipment and machinery.
Talking	O-F	Communicating with supervisors and coworkers.
Hearing	C	Communicating with supervisors and coworkers.
Seeing	C	Visual abilities would be considered important in this position.
Writing	S	Writing notes and measurements.
Vibration	F	Operating equipment. Larger vibrations are felt particularly when using an attachment on a backhoe to break concrete, or when driving a large rolling compactor which uses vibration to help compact soil, rock, and asphalt.
Normal Job Site Hazards	C	Using steps/short ladders to enter/exit equipment repeatedly throughout a shift, moving machinery, working near moving vehicles, slippery walking surfaces, fumes, dust, noise, vibrations, falling objects, striking head on overhead objects, carrying heavy objects, working at heights (ladders and man lifts), sharp tools, working from a boat.
Expected Environmental Conditions	C	Work is performed in any environment, typically exposed to weather, although a worker may be covered while working in a piece of equipment. Work may also be performed inside buildings. May be exposed to noisy environments, dust, and fumes.

The above job analysis represents the requirements of a specific job based on personal observations, discussions with employer representatives, and/or workers. On occasion, practicality and feasibility prevent the direct observation and/or gathering of objective quantifiable data. For this reason, a "best estimate" may have been used when reporting physical demand frequencies.

Analysis was done on the job site?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Job Analysis Reviewed By	Terry Dix



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Date	May 30, 2013
Completed by Vocational Provider	Nicki Gorski VRC CDMS
Signature of Vocational Provider	<i>Nicki Gorski</i>



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FOR PHYSICIAN'S/EVALUATOR'S USE ONLY	
<input type="checkbox"/>	The injured worker can perform the physical activities described in the job analysis and can return to work on _____.
<input type="checkbox"/>	The injured worker can perform the physical activities described in the job analysis on a part-time basis for _____ hours per day. The worker can be expected to progress to regular duties in _____ weeks/months.
<input type="checkbox"/>	The injured worker can perform the described job, but only with the modifications/ restrictions in the attached report and/or listed below. These modifications/restrictions are (check one): <input type="checkbox"/> Temporary for _____ weeks _____ months <input type="checkbox"/> Permanent
<input type="checkbox"/>	The injured worker cannot perform the physical activities described in the job analysis based on the physical limitations in the attached report and/or listed below. These limitations are (check one): <input type="checkbox"/> Temporary for _____ weeks _____ months <input type="checkbox"/> Permanent

COMMENTS

Physician's/Evaluator's Name (*printed*) _____

Physician's/Evaluator's Signature _____

Date _____

PLEASE RETURN COMPLETED FORM VIA FACSIMILE TO:
Port of Seattle Health and Safety Department at (206) 787-3406