# Title: Communications Infrastructure Specialist

FLSA Status: Non-Exempt

## BRIEF DESCRIPTION:

This classification is responsible for the inspection, installation, maintenance, and repair of the District's communications cabling infrastructure, electrical and electronic communications equipment and systems, including troubleshooting and diagnosing copper and fiber optic networks, and other related communication systems. Incumbent will maintain networking communications systems, install new equipment, and coordinate subcontracts. Other duties include serving as the on call representative for after hours and weekend support.

## ESSENTIAL FUNCTIONS:

Note: This information is intended to be descriptive of the key responsibilities of the position. The list of essential functions below does not identify all duties performed by any single incumbent in this position. Additionally, please be aware of the legend below when referring to the physical demands of each essential function.

| (S) Sedentary | (L) Light | (M) Medium | (H) Heavy | (V) Very Heavy |
|---|---|---|---|---|
| Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time. | Exerting up to 20 lbs. occasionally; 10 lbs. frequently; or negligible amounts constantly; OR requires walking or standing to a significant degree. | Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly. | Exerting 50-100 lbs. occasionally; 10-25 lbs. frequently; or up to 10-20 lbs. constantly. | Exerting over 100 lbs. occasionally; 50-100 lbs. frequently; or up to 20-50 lbs. constantly. |

| # | Code | Essential Functions | % of Time |
|---|---|---|---|
| 1 | S | Maintain Networking Communications Systems: Analyze and diagnose, isolate and repair equipment problems on the District's numerous wired and wireless communications systems. Ensure necessary action to restore system to expected service levels. Inspect, troubleshoot, and maintain inside and outside plant copper and fiber optic communications infrastructure, mechanical, electronic, network devices and components, connectors and systems, etc. Install, terminate, splice and test fiber optics network cabling and all related components; interpret test results to diagnose malfunctions. Perform preventative maintenance and scheduled inspections of mechanical, electrical, and electronic equipment and systems; interpret work orders; maintain and repair shop machinery, power tools, public address (PA) systems, digital messaging signs, communications control cabinets/boxes, battery backup systems, network switches, cabling vaults, splice cases and termination panels, and other related network equipment. Configure equipment and system operating parameters through the use of mobile radio system software, LAN/WAN service software and modem service software. Document system and equipment repairs, modifications, and changes as a part of ongoing service and maintenance system operating procedures. Consult with client department representatives, service providers, and vendors/contractors, sub-contractors, and other technical staff | 75% |

| | | | |
|---|---|---|---|
| | | as needed to resolve communication system problems. | |
| 2 | S | Installation of New Equipment: Using schematics, diagrams, blueprints and technical manuals, install communications' electrical and mechanical equipment such as generators, small air conditioning units, climate control units, and related electronic controls; assist in the configuration and installation of new equipment, ensure installation is managed in accordance with manufacturer standards, local/state/federal regulations, and District standards. Assist in the design and implementation of new communications systems and plant infrastructure to meet operating requirements of various District supported systems. | 15% |
| 3 | S | Coordination of Subcontracts: Coordinate, monitor, and inspect the installation of equipment by various contractors to ensure compliance with all specifications, regulations, and District standards; coordinate troubleshooting, maintenance and repair efforts with technical support providers. May coordinate, along with District departments, the work of contractors, subcontractors, inspectors, vendors, and other District staff. May instruct, assist and/or provide task/functional direction in a lead capacity to employees in other classifications, contractors, subcontractors, or District vendors. | 10% |

## JOB REQUIREMENTS:

| -Description of Minimum Job Requirements- | |
|---|---|
| Formal Education | Work requires knowledge of a specific vocational, administrative, or technical nature which may be obtained with a two (2) year associate's degree, diploma or equivalent from a college, technical, business, vocational, or correspondence school in telecommunications, electrical systems, electronics, or a related field. Appropriate certification may be awarded upon satisfactory completion of advanced study or training.<br><br>Additional directly related experience beyond the minimum requirement may substitute for the required education based on the ratio of one and a half (1.5) years of experience for each (1) year of education. |
| Experience | A minimum of three (3) years of full-time journey level work experience successfully performing duties related to the inspection, diagnosis, troubleshooting, maintenance, and repair of structured cabling systems, mechanical, electrical, and/or electronic systems, controls and equipment. |
| Supervision | Work requires functioning as a lead worker performing essentially the same work as those directed, and includes overseeing work quality, training, instructing, and scheduling work. |

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| Human Collaboration Skills | Work may require providing advice to others outside direct reporting relationships on specific problems or general policies. Contacts may require the consideration of different points of view to reach agreement. Elements of persuasion may be necessary to gain cooperation and acceptance of ideas. |
| Freedom to Act | The employee normally performs the job by following established standard operating procedures and/or policies. There is a choice of the appropriate procedure or policy to apply to duties. Performance is reviewed periodically. |
| Technical Skills | Advanced: Work requires advanced skills and knowledge in approaches and systems, which affect the design and implementation of major programs and/or processes organization-wide. Independent judgment and decision-making abilities are necessary to apply technical skills effectively. |
| Budget Responsibility | Position has no fiscal responsibility. |
| Reading | Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study. |
| Math | Advanced - Ability to apply fundamental concepts of theories, work with advanced mathematical operations methods, and functions of real and complex variables. Ordinarily, such education is obtained in at the college level or above. However, it may be obtained from experience and self-study. |
| Writing | Intermediate – Ability to write reports, prepare business letters, expositions, and summaries with proper format, punctuation, spelling, and grammar, using all parts of speech. Ordinarily, such education is obtained in high school up to college. However, it may be obtained from experience and self-study. |
| Certification & Other Requirements | Valid California Class C driver's license. |

| KNOWLEDGE |
|---|
| • Principles and methods of construction for communications and cabling systems infrastructure.<br>• Network, electrical, mechanical theory and principles.<br>• Telecommunication industry theory, protocol and interfaces for voice and data systems and interconnecting networks, including standards and best practices for installation and maintenance of inside and outside plant cabling systems.<br>• Systems approach to service and maintenance of communication systems.<br>• Principles and procedures of installing, maintaining, repairing, operating and testing digital equipment, data link equipment, network switches, fiber optic and copper patch panels and splice cases, radio controlled equipment, test devices and other communications equipment.<br>• Methods, tools, materials, and equipment used in the operation, maintenance and repair of facilities, fixtures and mechanical, electrical and electronic systems and equipment.<br>• Underground Service Alert rules and regulations.<br>• Care and maintenance of commonly used hand and power tools, electrical energy and statics sensitive devices and electromagnetic wage energy and equipment.<br>• Pertinent local, state, and federal codes and safety regulations.<br>• Standard and accepted preventative maintenance requirements.<br>• Safe practices associated with high power laser usage pertaining to fiber optic systems.<br>• Personal computers and a variety of Windows applications.<br>• Standard and accepted first aid and safety practices. |

| SKILLS |
|---|
| • Word processing, spreadsheet, presentation and database software.<br>• Specialized hardware and software related to functional area. |

| ABILITIES |
|---|
| • Use logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions or approaches to problems.<br>• Identify measures or indicators of system performance and the actions needed to improve or correct performance relative to the goals of the system.<br>• Repair machines or systems using the needed tools.<br>• Use mathematics to solve problems.<br>• Determine appropriate tools and equipment needed to do a job.<br>• Analyze needs and product requirements to create a design.<br>• Use of fiber optics power meter and OTDR and other testing equipment.<br>• Use of copper and fiber optic termination and splicing equipment.<br>• Use of power and hand tools.<br>• Perform skilled maintenance tasks on the District's electrical, electronic and |

mechanical systems, facilities, property, fixtures and equipment.

- Inspect, test, adjust, repair, replace, rebuild, and overhaul electrical, mechanical, electronic, and PLC equipment, assemblies, sub-assemblies and related equipment, machinery and tools.
- Read and interpret work plans, operations, service and technical manuals, schematics, blueprints, diagrams, and logic circuits.
- Use testing instruments and automated diagnostic tools.
- Troubleshoot/diagnose and correct infrastructure problems with District facilities, equipment, and property.
- Exercise good judgment and effectively solve practical problems.
- Understand and effectively follow both oral and written instructions.
- Work independently for long periods of time and as a positive team member.
- Accurately calculate proportion, area, volume, and circumference and effectively apply basic algebraic concepts.
- Demonstrate the proper use of voltmeter, ammeter, ohmmeter, hand tools and other tools commonly used in the performance of assigned work responsibilities.
- Learn new skills and adapt to new and evolving technologies.
- Safely operate a variety of District equipment and vehicles.
- Coordinate the work of contractors; and direct and instruct less experienced employees on proper work methods and use of tools and equipment.
- Use tact and diplomacy in interactions with employees, contractors and the general public.
- Understand and follow guidelines for safe handling of toxic and/or caustic chemicals and other hazardous materials.
- Establish and maintain effective working relationships with those contacted in the performance of required duties.
- Effectively use GroupWise email software.
- Effectively use work order management computer software.
- Effectively use AutoCAD and potentially other drawing software.
- Perform the essential functions of the job without causing harm to self or others.

## OVERALL PHYSICAL STRENGTH DEMANDS:

| -Physical strength for this position is indicated below with "X"- | | | | |
|---|---|---|---|---|
| Sedentary | Light | Medium **X** | Heavy | Very Heavy |
| Exerting up to 10 lbs. occasionally or negligible weights frequently; sitting most of the time. | Exerting up to 20 lbs. occasionally, 10 lbs. frequently, or negligible amounts constantly OR requires walking or standing to a significant degree. | Exerting 20-50 lbs. occasionally, 10-25 lbs. frequently, or up to 10 lbs. constantly. | Exerting 50-100 lbs. occasionally, 10-25 lbs. frequently, or up to 10-20 lbs. constantly. | Exerting over 100 lbs. occasionally, 50-100 lbs. frequently, or up to 20-50 lbs. constantly. |

## PHYSICAL DEMANDS:

| C | F | O | R | N |
|---|---|---|---|---|
| Continuously | Frequently | Occasionally | Rarely | Never |
| 2/3 or more of the time. | From 1/3 to 2/3 of the time. | Up to 1/3 of the time. | Less than 1 hour per week. | Never occurs. |

Note: This is intended as a description of the way the job is currently performed. It does not address the potential for accommodation.

| -Physical Demand- | -Frequency- | -Brief Description- |
|---|---|---|
| Standing | F | Observing work site; observing work duties; communicating with co-workers |
| Sitting | F | Desk work; meetings; driving |
| Walking | F | To other departments/offices; around work site |
| Lifting | O | Supplies; equipment |
| Carrying | O | Supplies; equipment |
| Pushing/Pulling | O | File drawers; equipment; tables and chairs |
| Reaching | O | For supplies; for files |
| Handling | O | Paperwork |
| Fine Dexterity | F | Computer keyboard; telephone keypad; calculator |
| Kneeling | O | Retrieving items from lower shelves/ground |
| Crouching | O | Filing in lower drawers; retrieving items from lower shelves/ground; |
| Crawling | R | Under equipment |
| Bending | O | Filing in lower drawers; retrieving items from lower shelves/ground; |
| Twisting | O | From computer to telephone; getting inside vehicle |
| Climbing | O | Stairs; step stools |
| Balancing | O | On step stools |
| Vision | C | Reading; computer screen; driving; observing work site |
| Hearing | F | Communicating via telephone/radio; to co-workers/public |
| Talking | F | Communicating via telephone/radio; to co-workers/public |
| Foot Controls | O | Driving |
| Other (specified if applicable) | N | |

## MACHINES, TOOLS, EQUIPMENT, SOFTWARE, AND HARDWARE:

Computers, personal computers, laptops, servers, AS-400, Windows, Linux, Netware, SQL server, Word, Excel, Access, PowerPoint, Visual Basic and other job associated hardware and software, hand-held cable tester, calculator, telephone, copier, scanner, printer, hand tools, power tools, testing equipment.

## ENVIRONMENTAL FACTORS:

| C<br>Continuously | F<br>Frequently | O<br>Occasionally | R<br>Rarely | N<br>Never |
|---|---|---|---|---|

| D<br>Daily | W<br>Several Times Per Week | M<br>Several Times Per Month | S<br>Seasonally | N<br>Never |
|---|---|---|---|---|

| -Health and Safety Factors- | |
|---|---|
| Mechanical Hazards | R |
| Chemical Hazards | R |
| Electrical Hazards | R |
| Fire Hazards | N |
| Explosives | N |
| Communicable Diseases | N |
| Physical Danger or Abuse | N |
| Other (see 1 below) | N |

(1) N/A

| -Environmental Factors- | |
|---|---|
| Respiratory Hazards | S |
| Extreme Temperatures | N |
| Noise and Vibration | N |
| Wetness/Humidity | S |
| Physical Hazards | S |

## PROTECTIVE EQUIPMENT REQUIRED:

Hard hat and safety vest on occasion when working in Light Rail right-of-way.

## NON-PHYSICAL DEMANDS:

| F<br>Frequently<br>From 1/3 to 2/3 of the time | O<br>Occasionally<br>Up to 1/3 of the time | R<br>Rarely<br>Less than 1 hour per week | N<br>Never<br>Never occurs |
|---|---|---|---|

| -Description of Non-Physical Demands - | -Frequency- |
|---|---|
| Time Pressure | F |
| Emergency Situation | R |
| Frequent Change of Tasks | F |
| Irregular Work Schedule/Overtime | O |
| Performing Multiple Tasks Simultaneously | F |
| Working Closely with Others as Part of a Team | F |
| Tedious or Exacting Work | F |
| Noisy/Distracting Environment | O |
| Other (see 2 below) | N |

(2) N/A

## PRIMARY WORK LOCATION:

| | | | |
|---|---|---|---|
| Office Environment | X | Vehicle | |
| Warehouse | | Outdoors | |
| Shop | | Other (see 3 below) | X |
| Recreation/Neighborhood Center | | | |

(3)various District properties

The above statements are intended to describe the general nature and level of work being performed by individuals assigned to this position. They are not intended to be an exhaustive list of all responsibilities, duties, and skills required. This description is subject to modification as the needs and requirements of the position change.