

# CITY OF FORT BRAGG

## RESPIRATORY PROTECTION PROGRAM

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## **A. PURPOSE**

The City of Fort Bragg has determined that employees in the Public Works and Police departments are exposed to respiratory hazards during routine operations. These hazards include, but are not limited to, dust, fine particles, smoke, paint fumes, chemical mist, confined spaces, welding fumes, unknown/ unquantified contaminants, oxygen deficient contaminants, and in some cases represent Immediately Dangerous to Life or Health (IDLH) conditions. The purpose of this program is to ensure that all City of Fort Bragg employees are protected from exposure to these respiratory hazards.

Engineering controls, evaluation and ventilation, gas detectors, saw dust collection systems, dust masks, barriers, enclosures, filtered air, exhaust vents and exhaust fans are the first line of defense in the City of Fort Bragg. However, engineering controls have not always been feasible for some of our operations, or have not always completely controlled the identified hazards. In these situations, respirators and other protective equipment must be used. Respirators are also needed to protect employees' health during emergencies. The work processes requiring respirator use in the City of Fort Bragg are outlined in Table 1 in the Scope and Application section of this Program.

In addition, from time to time employees express a desire to wear respirators during certain operations that do not require respiratory protection. As a general policy, the City of Fort Bragg will review each of these requests on a case-by-case basis. If the use of respiratory protection in a specific case will not jeopardize the health or safety of the worker(s), the City of Fort Bragg will provide respirators for voluntary use. As outlined in the Scope and Application section of this Program, voluntary respirator use is subject to certain requirements of this Program.

## **B. SCOPE AND APPLICATION**

This Program applies to all employees who are required to wear respirators, including SCBA, during normal work operations, and during some non-routine or emergency operations such as a spill of hazardous substance. This includes employees in the Public Works and Police departments. All employees working in these areas and engaged in certain processes or tasks (as outlined in Table 1 below) must be enrolled in the City's Respiratory Protection Program.

In addition, any employee who voluntarily wears a respirator when a respirator is not required (i.e., in certain maintenance/emergency operations) is subject to the medical evaluation, cleaning, maintenance, and storage elements in this Program, and must be provided with certain information specified in this section of the Program.<sup>1</sup>

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with training, medical evaluations, and respiratory protection equipment will be borne by the City.

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<sup>1</sup> Employees who voluntarily wear filtering facepieces (dust masks) are not subject to the medical evaluation, cleaning, storage, and maintenance provisions of this program.

**TABLE 1: VOLUNTARY AND REQUIRED RESPIRATORY USE AT  
CITY OF FORT BRAGG**

<b>Respirator</b>	<b>Department/Process</b>
Self contained breathing apparatus (SCBA) and 5 minute escape pack	<p>Public Works: Confine space entry. In any atmosphere that tests hazardous or may turn hazardous.</p> <p>Water/Wastewater Treatment: Confine space entry. In any atmosphere that tests hazardous or may turn hazardous. In a Chlorine or Sulfur Dioxide leak or inundated space. In any space where a gas alarm is activated. During maintenance on Cl<sub>2</sub> or SO<sub>2</sub> control equipment where a leak or discharge may occur. During rescue attempts.</p>
Self contained breathing apparatus (SCBA) with continuous supplied air and 5 minute escape pack	Public Works: Confine space rescue.
Air Purifying Respirator (APR) with appropriate filtering cartridge – Full face	<p>Motor Pool: Painting, sandblasting, using hazardous chemicals, and removing brake discs.</p> <p>Public Works: Cutting, hammering or breaking asbestos cement pipe, concrete pipe, or any type of sewer pipe. Cutting or grinding asphalt and concrete with a dry cutting system or tool. Painting with oil base epoxy or multi-stage paints. Cutting fiberglass Spraying pesticides or herbicides.</p> <p>Water/Wastewater Treatment: Disinfecting with Cl<sub>2</sub> solutions above 25 ppm. When changing one ton and 150 lb. Cl<sub>2</sub> and SO<sub>2</sub> cylinders. Maintenance that requires compromising any fittings, hardware, or components of the Cl<sub>2</sub> or SO<sub>2</sub> system. Any time operators suspect a minor leak less than 10 ppm. When using hazardous chemicals where the MSDS suggests or recommends protection. When using harsh cleaning products, acid washing, or in gas forming environments.</p> <p>Police Department: Emergency incident response with chemical agent (tear gas) dispersal; Emergency incident response to release of unknown chemical agent; Haz-Mat response involving release of unknown chemical agent(s).</p>
Air Purifying Respirator (APR) with appropriate filtering cartridge – Half-face	Public Works: Painting with latex paints in poorly ventilated spaces. Welding cutting or grinding any metals. Spraying pesticides or herbicides. Sheetrock or wall texturing work. Mowing, cutting, weed abatement, pruning, or trimming plant growth.

	<p>Motor Pool: Welding, cutting, or grinding any metals. Painting with latex paints in poorly ventilated spaces.</p> <p>Water/Wastewater Treatment: Painting with latex paints in poorly ventilated spaces. Welding cutting or grinding any metals. Spraying pesticides or herbicides. Sheetrock or wall texturing work. Mowing, cutting, weed abatement, pruning, or trimming plant growth. When recommended by product MSDS or where reasonable safety practices suggest.</p>
Dust Masks	<p>Public Works and Motor Pool: Saw cutting. Mowing, cutting, weed abatement, pruning or trimming plant growth. Dusty or airborne debris environments, heavy dusting. Sheetrock or wall texturing work.</p> <p>Water/Wastewater Treatment: Saw cutting. Mowing, cutting, weed abatement, pruning or trimming plant growth. Dusty or airborne debris environments, heavy dusting. Sheetrock or wall texturing work. Brooming activity that produces a dust inundated environment.</p> <p>Police Department: Evidence room work.</p>

## C. RESPONSIBILITIES

### Program Administrator

The Program Administrator is responsible for administering the Respiratory Protection Program. Duties of the Program Administrator include:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards;
- Selection of respiratory protection options;
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications;
- Arranging for and/or conducting training;
- Ensuring proper storage and maintenance of respiratory protection equipment;
- Conducting qualitative and quantitative fit testing;
- Administering the medical surveillance program;
- Maintaining records required by the program;
- Evaluating the program;
- Updating written program, as needed.

The Program Administrator for the City of Fort Bragg is the Safety Coordinator.

## **Supervisors**

Supervisors are responsible for ensuring that the Respiratory Protection Program is implemented in their particular areas. In addition to being knowledgeable about the Program requirements for their own protection, Supervisors must also ensure that the Program is understood and followed by the employees under their charge. Duties of the Supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing, and a medical evaluation;
- Ensuring the availability of appropriate respirators and accessories;
- Being aware of tasks requiring the use of respiratory protections;
- Enforcing that respirators are properly cleaned, maintained, and stored according to the Respiratory Protection Plan;
- Ensuring that respirators fit well and do not cause discomfort;
- Continually monitoring work areas and operations to identify respiratory hazards;
- Coordinating with the Program Administrator on how to address respirator hazards or other concerns regarding the Program.

## **Employees**

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

- Care for and maintain their respirators as instructed, and store them in a clean sanitary location;
- Inform their Supervisors if the respirator no longer fits well, and request a new one that fits properly;
- Inform their Supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the Program.

## **D. PROGRAM ELEMENTS**

### **Selection Procedures**

The Supervisor will advise the Program Administrator on respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all Cal/OSHA Standards. The Supervisor will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency advising the Program Administrator or such evaluation. The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- 2) Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing process records, and talking with employees and supervisors.

- 3) Exposure monitoring to quantify potential hazardous exposures. Each City department will be responsible for monitoring their hazardous exposures.

**CITY OF FORT BRAGG HAZARD ASSESSMENT**

Department	Contaminants	Exposure Level (8 hrs TWA)*	PEL	Controls
Building Maintenance	Toluene	50 PPM	100 PPM	Cartridge
	Propane	1000 PPM	1000 PPM	Cartridge
	Acetone	1000 PPM	1000 PPM	Cartridge
	Lead	250 PPM	.05 PPM	Ventilation
	Petroleum Distillate	100 PPM	400 PPM	Ventilation
	Paint-Oil Base	100 PPM	100 PPM	Cartridge
	Paint Thinner	100 PPM	500 PPM	Cartridge
	Latex-Paint-(contains) CRYSTALLINE SILICA	.1 MG/m3	.1 MG/m3	Cartridge
	Hand Sanitizer-Ethanol	1000 PPM	1500 PPM	Ventilation
	Isopropyl Alcohol	400 PPM	400 PPM	Ventilation
	Floor-Finish-(contains) Dipropylene-Glycol-Methyl Ether	100 PPM	100 PPM	Ventilation
	Power-Cleaner-(contains) Monoethanolamine	25 PPM	50 PPM	Ventilation
	2-Butoxyethanol	.5 PPM	1 PPM	Ventilation
	Sodium-Hypochlorite 5.5%-(Household bleach)	5 PPM	1 PPM	Cartridge
Pesticides	See MSDS	See MSDS	See MSDS	
Parks Maintenance	Gasoline	300 PPM	300 PPM	Ventilation
	Benzene	.5 PPM	1 PPM / 5 STEL	Cartridge
	Toluene	50 PPM	100 PPM	Cartridge
	Propane		1000 PPM	Ventilation
	Diesel		18000 PPM	Ventilation
	All Herbicides	See MSDS	See MSDS	See MSDS
Police Department	Sodium-Hypochlorite 5.5%-(Household bleach)	.5 PPM	1 PPM	Ventilation / Cartridge
	Chemical (tear gas)			

Department	Contaminants	Exposure Level (8 hrs TWA)*	PEL	Controls
	Agents Flash Bang Explosives Gun Cleaner Solvents Smoke Bomb Explosives Ninhydrin Spray Chemical Agent/ Narcotic Testing Modules Fingerprint Powder Toluene Snow Print Wax Spray Copy Machine Toner			
Street Maintenance	Graffiti Remover - (contains) Monochlorotoluene Ethyl Alcohol Xylene VM&P Naptha Traffic paint all colors - (contains) Methanol Mineral Sprits Petroleum Hydro-carbon Distillates Nonane, all isomers Trimethylbenzenes, all isomers Naphthalene Epoxy Adhesive (contains) N-Butyl Acetate Epoxy Adhesive Hardener (contains) Isocyanate Oligomer MEK Aromatic Petroleum Distillates N-Butyl Acetate	50 PPM 1000 PPM 100 PPM 300 PPM  200 PPM 100 PPM 200 PPM 25 PPM 10 PPM  150 PPM .5 Mg/ m3 200 PPM 100 PPM 150 PPM	50 PPM 1000 PPM 100 PPM 300 PPM  200 PPM 500PPM 200 PPM 25 PPM 10 PPM  150 PPM .5 Mg/ m3 200 PPM 100 PPM 150 PPM	Cartridge    Cartridge during spraying  Cartridge Cartridge Cartridge  Ventilation  Ventilation Ventilation Ventilation
Vehicle Maintenance	Gasoline	300 PPM	300 PPM TWA	Cartridge

Department	Contaminants	Exposure Level (8 hrs TWA)*	PEL	Controls
	Benzene	.5 PPM	1PPM/5STEL	Cartridge
	Toluene	50 PPM	100 PPM	Cartridge
	Propane	1000 PPM	1000 PPM	Ventilation
	Diesel	15000 PPM	18000 PPM	Ventilation
	Acetone	1000 PPM	1000 PPM	Cartridge
	Lead	250 PPM	N/A	Ventilation
	Petroleum Distillate	100 PPM	N/A	Ventilation
	Paint-Oil Base		100 PPM	Cartridge
	Paint Thinner		500 PPM	Cartridge
	Welding Fumes	N/A	N/A	Ventilation / Cartridge
	Acetylene-Gas	500 PPM	1000 PPM	Ventilation
	Brake Cleaner - (contains) Solvent-Naphtha	400 PPM	100 PPM	Cartridge
	Carbon Dioxide (1-10%)	10000 PPM	10000 PPM	
	Petroleum Base Oils Mists	5 PPM	5 PPM	Cartridge with P95 Filters
	Silicone Sealants (contains) Carbon Black	3.5 PPM	3.5 PPM	Ventilation
	Mineral Spirits			
	Petroleum Hydrocarbon Distillates	100 PPM	500PPM	Cartridge
	Nonane, all isomers	200 PPM	200 PPM	Cartridge
	Trimethylbenzenes, all isomers	25 PPM	25 PPM	Cartridge
	Naphthalene	10 PPM	10 PPM	Cartridge
	Freon 12	1000 PPM	1000 PPM	Ventilation
	Freon 13	1000 PPM	Not Established	Ventilation
Wastewater Collection	<b>NON-FRIABLE ASBESTOS</b>	Not Determined	Not Determined	Cartridge
	Hydrogen Sulfide H2s	10 PPM	10 PPM	Gas Detector / Ventilation
	Methane gas	1000 PPM	N/A	Gas Detector / Ventilation

Department	Contaminants	Exposure Level (8 hrs TWA)*	PEL	Controls
	Oxygen O2 (lack of)	19.5%	19.5%	Gas Detector / Ventilation
Wastewater Treatment Plant	Chlorine, Cl <sub>2</sub> Sulfur Dioxide, SO <sub>2</sub> Sodium Hypochloride Calcium Hypochloride Muriatic acid Aerosol Spray Paint Aerosol Lubricants Ammonia Methane Gas Pesticide Pellet Dust Welding Gases Hydrogen Sulfide Oxygen O2 (lack of) Lift Station Odor Controller Broken Fluorescent Bulbs Atomized Compressed Air Oil	10 PPM 19.5%	10 PPM 19.5%	Gas Detector / Ventilation Gas Detector / Ventilation
Water Collection	Sodium-Hypochlorite 5.5%-(Household bleach) <b>NON-FRIABLE ASBESTOS</b> PVC –Glue(contains) Polyvinyl Chloride Resin Tetrahydrofuran MEK Cyclohexanone	.5 PPM N/A 1 PPM 250 PPM 200 PPM 50 PPM	1 PPM N/A 5 PPM 200 PPM 200 PPM 25 PPM	Ventilation / Cartridge Cartridge Ventilation Ventilation Ventilation
Water Treatment Plant	Chlorine, Cl <sub>2</sub> Sulfur Dioxide, SO <sub>2</sub>			

Department	Contaminants	Exposure Level (8 hrs TWA)*	PEL	Controls
	Sodium Hypochloride Calcium Hypochloride Muriatic acid Aerosol Spray Paint Aerosol Lubricants Ammonia Methane Gas Pesticide Pellet Dust Welding Gases Hydrogen Sulfide Oxygen O2 (lack of) Lift Station Odor Controller Broken Fluorescent Bulbs Atomized Compressed Air Oil	10 PPM          19.5%	          10 PPM  19.5%	          Gas Detector / Ventilation  Gas Detector / Ventilation

\* Summarized from Industrial Hygiene report provided by OSHA (TWA = Time Weighed Average)

#### *Updating the Hazard Assessment*

The Program Administrator must revise and update the hazard assessment as needed (i.e., any time work process changes may potentially affect exposure). If an employee feels that respiratory protection is needed during a particular activity, he/she is to contact his/her Supervisor or the Program Administrator. The Program Administrator will then communicate the results of that assessment back to the employee(s). If it is determined that respiratory protection is necessary, all other elements of this Program will be in effect for those tasks and this program will be updated accordingly.

#### *NIOSH Certification*

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approved label. The label must not be removed or defaced while it is in use.

## **Medical Evaluation**

Employees who are either required to wear respirators, or who choose to wear an APR voluntarily, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician will provide the medical evaluations. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the Respiratory Protection Standard, attached as Appendix C of this Program. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
- To the extent feasible, the City will assist employees who are unable to read the questionnaire (by providing help in reading the questionnaire). When this is not possible, the employee will be sent directly to the physician for medical evaluation.
- All affected employees will be given a copy of the medical questionnaire to fill out along with a stamped and addressed envelope for mailing the questionnaire to the City physician. Employees will be permitted to fill out the questionnaire on City time.
- Follow-up medical exams will be granted to employees as required by the Standard, and/or as deemed necessary by the physician.
- All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- The Program Administrator has provided the physician with a copy of this Program, a copy of the Respiratory Protection Standard, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air-purifying respirator will be provided with a powered air-purifying respirator.
- After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
  - Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
  - The physician or Supervisor informs the Program Administrator that the employee needs to be reevaluated;
  - Information from this Program, including observations made during fit testing and program evaluation, indicates a need for reevaluation;

- A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

A list of City of Fort Bragg classifications currently included in medical surveillance is provided in Table 2 of this Program (see also Appendix E of this Program).

All examinations and questionnaires are to remain confidential between the employee and the physician. The physician will provide the City with a Physician's Clearance Form (see Appendix D) stating whether or not the employee is qualified to use a respirator.

### **Fit Testing**

Fit testing is required for employees as outlined in Table 1 of this Program who wear half-face piece APRs or tight-fitting SARs for the job function outlined in Table 1 of this Program. Employees voluntarily wearing half-face piece APRs may also be fit tested upon request.

Employees who are required to wear half-face piece APR or tight-fitting SAR respirators will be fit tested:

- Prior to being allowed to wear any respirator with a tight-fitting piece;
- Annually;
- When there are changes in the employee's physical condition that could affect respirator fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit. Fit testing of PAPRs is to be conducted in the negative pressure mode.

Fit tests will be conducted in accordance with the OSHA Respiratory Protection Standard. Employees using a tight-fitting face-piece respirator must pass a quantitative fit test (QNFT) or qualitative fit test (QLFT).

A Fit Test Authorization form must be completed for each employee being fit tested with respiratory protection equipment. Completed Authorization forms must be forwarded to the Safety Coordinator and will be kept on file. Please refer to Appendix F of this Program document.

### ***Air Purifying Respirators***

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol.

- QLFT protocols include:
  - Isoamyl Acetate (banana oil)
  - Saccharin Solution Aerosol
  - Bitrex™ (Denatonium Benzoate) Solution Aerosol
- The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

- The following test exercises are to be performed for one minute each unless otherwise indicated:
  - Normal breathing in a normal standing position
  - Deep breathing in a normal standing position
  - Turning head side to side while standing in place
  - Moving head up and down while standing in place
  - Talking – Reading the Rainbow Passage or count backward from 100
  - Grimace (smile or frown) – *test duration is 15 seconds*
  - Bending over at the waist or jogging in place for those test environments which do not permit bending at the waist
  - Normal breathing in a normal standing position

If the comfort of the respirator becomes unacceptable during the test, another model of respirator shall be tried.

- QLFT may only be used to fit test negative pressure half-mask or full-face air-purifying respirators.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half-face pieces, or equal to or greater than 500 for tight-fitting full-face pieces, the QNFT has been passed with that respirator.

### ***Atmosphere Supplying Respirators***

- Fit testing of tight-fitting atmosphere-supplying respirators shall be accomplished by performing QNFT in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
- The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.
- The following test exercises are to be performed for one minute each unless otherwise indicated:
  - Normal breathing in a normal standing position
  - Deep breathing in a normal standing position
  - Turning head side to side while standing in place
  - Moving head up and down while standing in place
  - Talking – Reading the Rainbow Passage or count backward from 100
  - Grimace (smile or frown) – *test duration is 15 seconds*
  - Bending over at the waist or jogging in place for those test environments which do not permit bending at the waist
  - Normal breathing in a normal standing position

If the comfort of the respirator becomes unacceptable during the test, another model of respirator shall be tried.

## Respirator Use

Respirator protection is required for the following personnel:

<b>TABLE 2: City of Fort Bragg Personnel in Respiratory Protection Program</b>			
<b>Department/Division</b>	<b>Job Title</b>	<b>Work Procedure</b>	<b>Respirator</b>
Public Works	Maintenance I, II, III, IV	Confine space entry. In any atmosphere that tests hazardous or may turn hazardous with Immediate danger to life or health.	Self contained breathing apparatus (SCBA) and 5 minute escape pack.
Public Works	Maintenance II, III, IV; Mechanic; Superintendent	Confine Space Rescue	Self contained breathing apparatus (SCBA) with continuous supplied air and 5 minute escape pack.
Public Works	Maintenance I, II, III, IV; Facilities Maintenance Worker; Superintendent	<p>Cutting, hammering or breaking asbestos cement pipe, concrete pipe, or any type of sewer pipe.</p> <p>Cutting, or grinding asphalt and concrete with a dry cutting system or tool.</p> <p>Painting with oil base epoxy or multi-stage paints.</p> <p>Cutting fiberglass.</p> <p>Spraying pesticides or herbicides (where eye protection may be compromised).</p>	Full face respirator with appropriate cartridge.
Public Works	Maintenance I, II, III, IV; Facilities Maintenance Worker; Superintendent	<p>Painting with latex paints in poorly ventilated spaces.</p> <p>Welding cutting or grinding any metals</p> <p>Spraying pesticides or herbicides.</p>	Half face respirator with appropriate cartridge.

		Sheetrock, wall texturing work.  Mowing, cutting, weed abatement, pruning or trimming plant growth (for allergic reactions).	
Public Works	Maintenance I, II, III, IV; Facilities Maintenance Worker; Superintendent	Saw cutting.  Mowing, cutting, weed abatement, pruning or trimming plant growth.  Dusty or airborne debris environments.	Dust mask
Motor Pool	Mechanic; Superintendent	Painting, sand-blasting, using hazardous chemicals, and removing brake discs.	Full face respirator with appropriate cartridge.
Motor Pool	Mechanic; Superintendent	Welding, cutting or grinding any metals.  Painting with latex paints in poorly ventilated spaces.	Half face respirator with appropriate cartridge.
Motor Pool	Mechanic; Superintendent	Saw cutting.  Cleaning and working on mowing, cutting, weed abatement, pruning equipment.  Dusty or airborne debris environments.	Dust Mask
Water/Wastewater Treatment	Treatment Plant Operator-in-Training; Treatment Plant Operator I, II; Treatment Plant Superintendent	Confine space entry. In any atmosphere that tests hazardous or may turn hazardous with Immediate danger to life or health.  In a Chlorine or Sulfur Dioxide leak or inundated space. In any	Self contained breathing apparatus (SCBA) and 5 minute escape pack.

		<p>space where a gas alarm is activated.</p> <p>During maintenance on Cl<sub>2</sub> or SO<sub>2</sub> control equipment where a leak or discharge may occur.</p> <p>During rescue attempts.</p>	
Water/Wastewater Treatment	Lab Technician; Treatment Plant Operator-in-Training; Treatment Plant Operator I, II; Treatment Plant Superintendent	<p>Disinfecting with Cl<sub>2</sub> solutions above 25 ppm.</p> <p>Changing one ton and 150 lb. Cl<sub>2</sub> and SO<sub>2</sub> cylinders.</p> <p>Maintenance that requires compromising any fittings, hardware, or components of the Cl<sub>2</sub> or SO<sub>2</sub> system.</p> <p>Any time operators suspect a minor leak less than 10 ppm.</p> <p>When using hazardous chemicals where the MSDS suggests or recommends protection.</p> <p>When using harsh cleaning products, acid washing, or in gas forming environments.</p>	Full face respirator with appropriate cartridge.
Water/Wastewater Treatment	Lab Technician; Treatment Plant Operator-in-Training; Treatment Plant Operator I, II; Treatment Plant Superintendent	<p>Painting with latex paints in poorly ventilated spaces.</p> <p>Welding cutting or grinding any metals.</p> <p>Spraying pesticides or herbicides.</p>	Half face respirator with appropriate cartridge.

		<p>Sheetrock or wall texturing work.</p> <p>Mowing, cutting, weed abatement, pruning, or trimming plant growth.</p> <p>When recommended by product MSDS or where reasonable safety practices suggest.</p>	
Water/Wastewater Treatment	<p>Lab Technician; Treatment Plant Operator-in-Training; Treatment Plant Operator I, II; Treatment Plant Superintendent</p>	<p>Saw cutting.</p> <p>Mowing, cutting, weed abatement, pruning or trimming plant growth.</p> <p>Dusty or airborne debris environments, heavy dusting.</p> <p>Sheetrock or wall texturing work.</p> <p>Brooming activity that produces a dust in-undated environment.</p>	Dust Mask
Police*	<p>Police Lieutenant Police Sergeant Police Officer Community Services Officer</p>	<p>Tear Gas Dispersal</p> <p>Release of unknown chemical agent</p>	Full face respirator with appropriate cartridge.
Police	<p>Administrative Secretary Police Service Technician</p>	Evidence Room	Dust Mask

\* These positions are exempt from the medical surveillance requirement if the employee has participated in a POST pre-employment physical; unless the Program Administrator has reason to believe that a health issue exists that would preclude the employee from using a respirator, OR, if the employee requests to participate in the medical surveillance portion of the Program.

*General Use Procedures:*

- Employees will use their respirators under conditions specified by this Program, and in accordance with the training they receive on the use of each

particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.

- All employees shall conduct user seal checks each time that they wear their respirator. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respirator Protection Standard.
- All employees shall be permitted to leave the work area to go to the break room to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the area.
- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures that prevent them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the face piece-to-face seal.

#### *Emergency Procedures:*

The following work areas have been identified as having foreseeable emergencies:

- Ditches;
- Wells;
- Vaults;
- Confined spaces;
- All hazardous materials atmospheres.

#### *Respirator Malfunction*

##### 1. APR Respirator Malfunction:

For any malfunction of an APR (e.g., such as breakthrough, face piece leakage, or improperly working valve), the respirator wearer should inform his or her Supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The Supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

##### 2. Atmosphere-supplying Respirator Malfunction:

All workers wearing atmosphere-supplying respirators will work with a buddy. Buddies shall assist workers who experience an SAR malfunction as follows:

If a worker in a confined space experiences a malfunction of an SAR, he or she should signal to the buddy that he or she has had a respirator malfunction. The buddy shall don an emergency escape respirator and aid the worker in immediately exiting.

All employees who enter confined spaces such as wells, and vaults will work with a buddy. If one of the workers experiences a respirator malfunction, he/she shall

signal this to his/her buddy. The buddy must immediately stop what he/she is doing to escort the employee to the Prep staging area where the employee can safely remove the SAR.

Exception: Some confined space rescue situations may not provide enough room for two rescuers to make entry at the same time. In this situation, appropriate Confined Space Rescue protocols will be followed.

### *IDLH Procedures*

The Program Administrator has identified the following area(s) as presenting the potential for Immediately Dangerous to Life or Health (IDLH) conditions:

- All Confined Spaces:
  - Lift station wet wells;
  - Dry wells;
  - Manholes;
  - Vaults;
- All hazardous materials atmospheres.
- Certain law enforcement atmospheres.

### **Air Quality**

For supplied-air respirators, only Grade D breathing air shall be used in the cylinders. Air samples are tested quarterly by a certified lab and results are maintained by the SCBA maintenance supervisor.

Each Department will maintain its own supply of spare cylinders and will maintain a minimum air supply of one fully charged replacement cylinder for each SAR unit. In addition, cylinders may be recharged as necessary at the Fort Bragg Fire Department (FBFD). The air for this system is provided by FBFD, and deliveries of new air are coordinated by Mike Cimolino / Darrell Orsi.

### **Cleaning, Maintenance, Change Schedules and Storage**

#### *Cleaning*

Respirators are to be regularly cleaned and disinfected at the designated respirator cleaning station(s) located in each participant department work area.

Respirators issued for the exclusive use of an employee are to be cleaned after each use for workers in all departments.

Atmosphere supplying and emergency use respirators are to be cleaned and disinfected after each use.

The following procedure is to be used when cleaning and disinfecting respirators:

- Disassemble respirator, removing any filters, canisters, or cartridges.
- Wash the face piece and associated parts in a mild detergent with warm water or products specifically designed for cleaning and disinfecting face pieces.
- Do not use organic solvents.

- Rinse completely in clean warm water.
- Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
- Air dry in a clean area.
- Reassemble the respirator and replace any defective parts.
- Place in a clean, dry plastic bag or other airtight container.

Note: The Supervisor will ensure an adequate supply of appropriate cleaning and disinfection material at the cleaning station. If supplies are low, employees should contact their Supervisor, who will follow department procedures for ordering supplies.

### *Maintenance*

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer. The manufacturer will conduct repairs to regulators or alarms of atmosphere-supplying respirators.

The following checklist will be used when inspecting respirators:

- Face piece:
  - Cracks, tears, or holes;
  - Facemask distortion;
  - Cracked or loose lenses/face shield.
- Head straps:
  - Breaks or tears;
  - Broken buckles.
- Valves:
  - Residue or dirt;
  - Cracks or tears in valve material.
- Filter/Cartridges:
  - Approval designation;
  - Gaskets;
  - Cracks or dents in housing;
  - Proper cartridge for hazard.
- Air Supply Systems:
  - Breathing air quality/grade;
  - Condition of supply hoses;
  - Hose connections;
  - Settings on regulators and valves.

Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include: to wash their face and respirator face piece to prevent any eye or skin irritation; to replace the filter, cartridge or canister; and if they detect vapor or gas breakthrough or leakage in the face piece or if they detect any other damage to the respirator or its components.

### *Change Schedules*

Employees wearing APRs for protection against wood dust and other particulates shall change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.

Based on discussions with our respirator distributor about City of Fort Bragg workplace exposure conditions, employees voluntarily wearing APRs with organic vapor cartridges shall change the cartridges on their respirators after the manufacturer recommended use time or shelf life expires, which ever occurs first, to ensure the continued effectiveness of the respirators.

### *Storage*

Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this Program and will store their respirator in a plastic bag in their own locker. Each employee will have his/her name on the bag and that bag will only be used to store the employee's respirator. Police Department employees, while on patrol duty, shall store their issued APRs in their patrol vehicles.

Atmosphere supplying respirators and a supply of respirator components in their original manufacturer's packaging will be stored:

Public Works Sewer Response Trailer

Wastewater Treatment Facility – replacement cartridges will be stored in respirator containers

Surface Water Treatment Plant – replacement cartridges will be stored in safety equipment locker

### *Defective Respirators*

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her Supervisor. Supervisors will give all defective respirators to a designated individual within the Department. The individual designated by the Department will decide whether to:

- Temporarily take the respirator out of service until it can be repaired;
- Perform a simple fix on the spot such as replacing a head strap;
- Dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of similar make, model, and size. All tagged out respirators will be destroyed.

### **Training**

The Program Administrator will provide training to respirator users and their Supervisors on the contents of the City of Fort Bragg Respiratory Protection Program and their

responsibilities under it, and on the Cal/OSHA Respiratory Protection Standard. Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- The City of Fort Bragg Respiratory Protection Program;
- The Cal/OSHA Respiratory Protection Standard;
- Respiratory hazards encountered at City of Fort Bragg and their health effects;
- Proper selection and use of respirators;
- Limitations of respirators;
- Respirator donning and user seal (fit) checks;
- Fit testing;
- Emergency use procedures;
- Maintenance and storage;
- Medical signs and symptoms limiting the effective use of respirators.

Employees will be retrained annually or as needed (e.g., if they change departments and need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. The Program Administrator will document respirator training; the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

## **E. PROGRAM EVALUATION**

The Department Safety Officer will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their Supervisors, site inspections, air monitoring and review of records.

Problems identified will be noted in an inspection log and addressed by the Department Safety Officer. These findings will be reported to the Program Administrator, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

## **F. DOCUMENTATION AND RECORD KEEPING**

A written copy of this Program and the Cal/OSHA Standard is kept in the Program Administrator's office and is available to all employees who wish to review it.

Also maintained in the Program Administrator's office are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

The Program Administrator will also maintain copies of the medical records for all employees covered under the Respiratory Protection Program. The completed medical questionnaire and the physician's documented findings are confidential and will remain

in the attending physician's office. The City will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.

## REFERENCES

*Questions and Answers on the Respiratory Protection Standard* OSHA Publication. Available from: OSHA, See the list of area and regional offices in Appendix II; Web site: [www.OSHA.gov](http://www.OSHA.gov).

*OSHA Instruction: Inspection Procedures for the Respiratory Protection Standard* OSHA Publication. Available from OSHA web site: [www.OSHA.gov](http://www.OSHA.gov).

*Respirator Selection Guide* OSHA Publication. Available from: OSHA, See the list of area and regional offices in Appendix II; Web site: [www.OSHA.gov](http://www.OSHA.gov).

*Documentation of the Threshold Limit Values.* Available from: ACGIH Publications Office, 6500 Glenway Ave., Building D-5, Cincinnati, OH 45221.

*NIOSH/OSHA Pocket Guide to Chemical Hazards.* Available from: National Institute for Occupational Safety and Health. Phone Number: (800-356-4674); Web site: [www.cdc.gov/niosh/homepage.html](http://www.cdc.gov/niosh/homepage.html).

ANSI Respirator Standard 1992 Z88.2.

*Condensed Chemical Dictionary.* Gessner G. Hawley, Van Nostrand Reinhold Co., 135 W. 50<sup>th</sup> St., New York, NY 10020.

*Industrial Respiratory Protection* NIOSH Publication. Available from: National Institute for Occupational Safety and Health. Phone Number: (800-356-4674); Web site: [www.cdc.gov/niosh/homepage.html](http://www.cdc.gov/niosh/homepage.html).

*Respirator Decision Logic* NIOSH Publication. Available from: National Institute for Occupational Safety and Health. Phone Number: (800-356-4674); Web site: [www.cdc.gov/niosh/homepage.html](http://www.cdc.gov/niosh/homepage.html).

*NIOSH Guide to the Selection and Use of Particulate Respirators Certified Under 42 CFR 84.* Available from: National Institute for Occupational Safety and Health. Phone Number: (800-356-4674); Web site: [www.cdc.gov/niosh/homepage.html](http://www.cdc.gov/niosh/homepage.html).

## APPENDIX A

### DEFINITIONS

**Air-purifying respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

**Atmosphere-supplying respirator** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

**Canister or cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

**Demand respirator** means an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

**Emergency situation** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

**Employee exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

**End-of-service-life indicator (ESLI)** means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

**Escape-only respirator** means a respirator intended to be used only for emergency exit.

**Filter or air purifying element** means a component used in respirators to remove solid or liquid aerosols from the inspired air.

**Filtering face piece (dust mask)** means a negative pressure particulate respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit factor** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

**Helmet** means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

**High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

**Hood** means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

**Immediately dangerous to life or health (IDLH)** means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

**Loose-fitting face piece** means a respiratory inlet covering that is designed to form a partial seal with the face.

**Negative pressure respirator (tight-fitting)** means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

**Oxygen deficient atmosphere** means an atmosphere with an oxygen content below 19.5% by volume.

**Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide some or all of the health care services required by paragraph (e) of this section.

**Positive pressure respirator** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

**Powered air-purifying respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Pressure demand respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

**Qualitative fit test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

**Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

**Respiratory inlet covering** means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

**Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designated to be carried by the user.

**Service life** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

**Supplied-air respirator (SAR)** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

**This section** means this respiratory protection standard.

**Tight-fitting face piece** means a respiratory inlet covering that forms a complete seal with the face.

**User seal check** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

## APPENDIX B

### INFORMATION FOR EMPLOYEES USING RESPIRATORS WHEN NOT REQUIRED UNDER THIS STANDARD

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by Cal/OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U. S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.
5. DO NOT wear your respirator (APR into oxygen reduced <18.5% or oxygen enriched >23.0% atmospheres).

## APPENDIX C

### RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (MANDATORY)

**To the Employer:** Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination:

**To the Employee:**

Can you read:  Yes  No

Your Employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your Employer or Supervisor must not look at or review your answers, and your Employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

**Part A. Section 1. (Mandatory)** The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: \_\_\_\_\_
2. Your name: \_\_\_\_\_
3. Your age (to nearest year): \_\_\_\_\_
4. Sex (check one):  Male  Female
5. Your height: \_\_\_\_\_ft. \_\_\_\_\_in.
6. Your weight: \_\_\_\_\_lbs.
7. Your job title: \_\_\_\_\_
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the area code): \_\_\_\_\_
9. The best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact the health care professional who will review this questionnaire (check one):  Yes  No
11. Check the type of respirator you will use (you can check more than one category)
  - a) \_\_\_\_\_ N, R, or P disposal respirator (filter-mask, non-cartridge type only).
  - b) \_\_\_\_\_ Other type (for example, half- or full-face piece type, powered air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (check one):  Yes  No
  - a) If "yes", what type(s): \_\_\_\_\_

**Part A. Section 2. (Mandatory)** Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please check Yes or No):

	YES	NO
1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you ever had any of the following conditions:		
a) Seizures (fits):	<input type="checkbox"/>	<input type="checkbox"/>
b) Diabetes (sugar disease):	<input type="checkbox"/>	<input type="checkbox"/>
c) Allergic reactions that interfere with your breathing:	<input type="checkbox"/>	<input type="checkbox"/>
d) Claustrophobia (fear of closed-in places):	<input type="checkbox"/>	<input type="checkbox"/>
e) Trouble smelling odors (except when you had a cold):	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you ever had any of the following pulmonary or lung problems:		
a) Asbestosis:	<input type="checkbox"/>	<input type="checkbox"/>
b) Asthma:	<input type="checkbox"/>	<input type="checkbox"/>
c) Chronic bronchitis:	<input type="checkbox"/>	<input type="checkbox"/>
d) Emphysema:	<input type="checkbox"/>	<input type="checkbox"/>
e) Pneumonia:	<input type="checkbox"/>	<input type="checkbox"/>
f) Tuberculosis:	<input type="checkbox"/>	<input type="checkbox"/>
g) Silicosis:	<input type="checkbox"/>	<input type="checkbox"/>
h) Pneumothorax (collapsed lung):	<input type="checkbox"/>	<input type="checkbox"/>
i) Lung cancer:	<input type="checkbox"/>	<input type="checkbox"/>
j) Broken ribs:	<input type="checkbox"/>	<input type="checkbox"/>
k) Any chest injuries or surgeries:	<input type="checkbox"/>	<input type="checkbox"/>
l) Any other lung problem that you've been told about:	<input type="checkbox"/>	<input type="checkbox"/>
4. Do you currently have any of the following symptoms of pulmonary or lung illness?		
a) Shortness of breath:	<input type="checkbox"/>	<input type="checkbox"/>
b) Shortness of breath when walking fast on level ground or walking up a slight hill or incline:	<input type="checkbox"/>	<input type="checkbox"/>
c) Shortness of breath when walking with other people at an ordinary pace on level ground:	<input type="checkbox"/>	<input type="checkbox"/>
d) Have to stop for breath when walking at your own pace on level ground:	<input type="checkbox"/>	<input type="checkbox"/>
e) Shortness of breath when washing or dressing yourself:	<input type="checkbox"/>	<input type="checkbox"/>
f) Shortness of breath that interferes with your job:	<input type="checkbox"/>	<input type="checkbox"/>
g) Coughing that produces phlegm (thick sputum):	<input type="checkbox"/>	<input type="checkbox"/>
h) Coughing that wakes you early in the morning:	<input type="checkbox"/>	<input type="checkbox"/>
i) Coughing that occurs mostly when you are lying down:	<input type="checkbox"/>	<input type="checkbox"/>
j) Coughing up blood in the last month:	<input type="checkbox"/>	<input type="checkbox"/>
k) Wheezing:	<input type="checkbox"/>	<input type="checkbox"/>
l) Wheezing that interferes with your job:	<input type="checkbox"/>	<input type="checkbox"/>
m) Chest pain when you breathe deeply:	<input type="checkbox"/>	<input type="checkbox"/>
n) Any other symptoms that you think may be related to lung problems:	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you ever had any of the following cardiovascular or heart problems:		
a) Heart attack:	<input type="checkbox"/>	<input type="checkbox"/>
b) Stroke:	<input type="checkbox"/>	<input type="checkbox"/>
c) Angina:	<input type="checkbox"/>	<input type="checkbox"/>
d) Heart failure:	<input type="checkbox"/>	<input type="checkbox"/>
e) Swelling in your legs or feet (not caused by walking):	<input type="checkbox"/>	<input type="checkbox"/>

- f) Heart arrhythmia (heart beating irregularly):
- g) High blood pressure:
- h) Any other heart problem that you've been told about:
6. Have you ever had any of the following cardiovascular or heart symptoms?
- a) Frequent pain or tightness in your chest:
- b) Pain or tightness in your chest during physical activity:
- c) Pain or tightness in your chest that interferes with your job:
- d) In the past two years, have you noticed your heart skipping or missing a beat:
- e) Heartburn or indigestion that is not related to eating:
- f) Any other symptoms that you think may be related to heart or circulation problems:
7. Do you currently take medication for any of the following problems?
- a) Breathing or lung problems:
- b) Heart trouble:
- c) Blood pressure:
- d) Seizure (fits):
8. Has your wearing a respirator caused any of the following problems? (If you've never used a respirator, check the following box  and go to question 9.)
- a) Eye irritation:
- b) Skin allergies or rashes:
- c) Anxiety that occurs only when you use the respirator:
- d) Unusual weakness or fatigue:
- e) Any other problem that interferes with your use of a respirator:
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

**Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.**

- |  | YES                      | NO                       |
|--|--------------------------|--------------------------|
| 10. Have you ever lost vision in either eye (temporarily or permanently)?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Do you currently have any of the following vision problems?            |                          |                          |
| a) Wear contact lenses:  | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Wear glasses:   | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Color blind:  | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Any other eye or vision problem:  | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Have you ever had an injury to your ears, including a broken ear drum? | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Do you currently have any of the following hearing problems?           |                          |                          |
| a) Difficulty hearing:   | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Wear a hearing aid:   | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Any other hearing or ear problem:                                       | <input type="checkbox"/> | <input type="checkbox"/> |

14. Have you ever had a back injury?
15. Do you currently have any of the following musculoskeletal problems?
- a) Weakness in any of your arms, hands, legs, or feet:
  - b) Back pain:
  - c) Difficulty fully moving your arms and legs:
  - d) Pain or stiffness when you lean forward or backward at the waist:
  - e) Difficulty fully moving your head up or down:
  - f) Difficulty fully moving your head side to side:
  - g) Difficulty bending at your knees:
  - h) Difficulty squatting to the ground:
  - i) Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs.:
  - j) Any other muscle or skeletal problem that interferes with using a respirator:

**Part B. Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.**

- |   | YES  | NO   |
|---|--|--|
| 1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen?<br>If "yes", do you have feelings of dizziness, shortness of breath, pounding in your chest or other symptoms when you're working under these conditions? | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> |
| 2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals?<br>If "yes", name the chemicals if you know them: _____<br>_____<br>_____                       | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| 3. Have you ever worked with any of the materials, or under any of the conditions, listed below:  |  |  |
| a) Asbestos:  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| b) Silica (e.g., in sandblasting):  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| c) Tungsten/cobalt (e.g., grinding or welding this material):   | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| d) Beryllium:   | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| e) Aluminum:  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| f) Coal (for example, mining):  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| g) Iron:  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| h) Tin:   | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| i) Dusty environments:  | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| j) Any other hazardous exposures:   | <input type="checkbox"/>                             | <input type="checkbox"/>                             |
| If "yes", describe these exposures: _____<br>_____<br>_____   |  |  |
| 4. List any second jobs or side businesses you have: _____<br>_____<br>_____  |  |  |

5. List your previous occupations: \_\_\_\_\_

6. List your current and previous hobbies: \_\_\_\_\_

7. Have you been in the military services?    
If "yes", were you exposed to biological or chemical agents (either in training or combat):

8. Have you ever worked on a HAZMAT team?

9. Other than medications for breathing an lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)?    
If "yes", name the medications if you know them:  
\_\_\_\_\_

10. Will you be using any of the following items with your respirator(s):  
a) HEPA filters:    
b) Canisters (for example, gas masks):    
c) Cartridges:

11. How often are you expected to use the respirator(s)? (Check "yes" or "no" for all answers that apply to you):  
a) Escape only (no rescue):    
b) Emergency rescue only:    
c) Less than 5 hours per week:    
d) Less than 2 hours per day:    
e) 2 to 4 hours per day:    
f) Over 4 hours per day:

12. During the period you are using the respirator(s), is your work effort:  
a) Light (less than 200 keal per hour):

If "yes", how long does this period last during the average shift: \_\_\_\_ hrs. \_\_\_\_ mins.  
Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

b) Moderate (200 to 350 keal per hour):

If "yes", how long does this period last during the average shift: \_\_\_\_ hrs. \_\_\_\_ mins.  
Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c) Heavy (above 350 keal per hour):

If "yes", how long does this period last during the average shift: \_\_\_\_ hrs. \_\_\_\_ mins.  
Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load

(about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator?

If "yes", describe this protective clothing and/or equipment: \_\_\_\_\_

\_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77° F)?

15. Will you be working under humid conditions?

16. Describe the work you'll be doing while you're using your respirator(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s). (For example, confined spaces, life-threatening gases): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the second toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the third toxic substance:  
\_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

The name of any other toxic substances that you'll be exposed to while using your respirator:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**APPENDIX D**

**PHYSICIAN'S CLEARANCE FORM**

This is to certify that I have reviewed the Respirator Medical Evaluation Questionnaire and performed an examination on: \_\_\_\_\_, an employee with the City of Fort Bragg and certify the following:

- The employee is medically able to use a respirator
- The employee has the following limitations on respirator use related to:
  - Medical condition of the employee; or
  - Workplace conditions in which the respirator will be used.

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- I have provided the employee with a copy of my written recommendation.

\_\_\_\_\_  
Written name of licensed physician

\_\_\_\_\_  
Signature of licensed physician

\_\_\_\_\_  
Date

## APPENDIX E

### COVERED JOB CLASSIFICATIONS

Community Services Officer  
Facilities Maintenance Worker  
Laboratory Technician  
Maintenance Worker I, II, III, IV  
Mechanic  
Police Lieutenant  
Police Officer  
Police Sergeant  
Public Works Supervisor  
Treatment Plant Operator  
Treatment Plant Operator-in-Training  
Treatment Plant Superintendent



