I. Objective

The purpose of the Respirable Silica Exposure Safety Program is to explain the hazards associated with silica dust and outline the steps to take to ensure employees who work with or around silica are not exposed to hazardous levels of silica dust. Town of Kernersville departments impacted by this standard are required to implement the components of this plan to ensure compliance with applicable state and federal regulations.

II. Standard

The following Occupational Safety and Health Administration (OSHA) standards are applicable for respirable crystalline silica:

- General Standard 29 CFR §1910.1053
- Construction Standard 29 CFR §1926.1153

III. Scope

The Respirable Crystalline Silica Exposure Control Plan applies to all employees who have the potential to be exposed to Respirable Crystalline Silica. The OSHA Respirable Crystalline Silica Construction and General Industry Standards applies to all occupational exposures to Respirable Crystalline Silica in construction work or maintenance activities, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air (25 μg/m3) as an 8-hour time-weighted average (TWA). This Plan shall be included in the Town of Kernersville's Hazard Communications program for applicable employees.

IV. Definitions

If a definition is not listed in this section, please contact your supervisor. If your supervisor is unaware of what the term means, please contact the Competent Person or HES.

- Action Level - a concentration of airborne Respirable Crystalline Silica of 25 μg/m3, calculated as an 8-hour TWA.

- Competent Person - an individual who is capable of identifying existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

- High-Efficiency Particulate Air (HEPA) Filter - a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.

- Permissible Exposure Limit (PEL) - the employer shall ensure that no employee is exposed to an airborne concentration of Respirable Crystalline Silica in excess of 50 µg/m3, calculated as an 8-hour TWA.

- Respirable Crystalline Silica - Quartz, Cristobalite, and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size- selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health-Related Sampling.

V. Specific Exposure Control Methods

For each employee working with materials containing crystalline silica and engaged in a task using the equipment and machines listed below, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection as specified.

Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	– When used outdoors.	None	APF 10
	– When used indoors or in an enclosed area.	APF 10	APF 10
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		
	– When used outdoors.	None	None
	– When used indoors or in an enclosed area.	APF 10	APF 10

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica- containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

VI. Housekeeping

The employer shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica.

- Use Wet Sweeping
- Use HEPA-Filtered Vacuuming

The employer shall not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica. If you're exposed to respirable crystalline silica and engaged in a task using equipment and machines not identified in the list above, contact the Competent Person or Safety Administrator for an exposure assessment to determine the engineering controls, work practices, and respiratory protection requirements to safely do your job.

VII. Additional Procedures

A. Restricting Access to Work Areas

Employees involved in the project work will:

- Limit work to only Town employees unless otherwise contracted
- Other employees around the project will not be present at the worksite more than 4 hours while working directly at the site or within possible exposure areas of the site

B. Competent Person Requirements

The competent person identified as the Street Superintendent or Asphalt Crew Leader will inspect and oversee all activities with potential airborne silica exposure. Subcontractors working on projects within the scope of this program shall appoint a competent person capable of executing the duties described herein. The competent person must have training in the inspection of work areas and equipment and in the determination of safe working conditions. This person shall have a working knowledge of the 1926.1153 standards, shall be capable of identifying airborne silica hazards, shall determine the need for initial and additional exposure monitoring, shall recommend and implement engineering and work practice controls, shall establish levels of PPE, and shall have the authority to take action to eliminate hazards and correct incidences of noncompliance.

C. Medical Surveillance Program

The Town of Kernersville has determined the tasked associated with these standards does not require medical surveillance as tasks determined in Table 1 will be:

- Completed in less than 4 hours or the work team will be rotated if the project requires more than 4 hours
- Done with only water integrated equipment, closed cab, or shrouded as required

VII. Employee Training

Each employee shall be provided training and demonstrate knowledge and understanding of the following:

- Health hazards associated with exposure to respirable crystalline silica
- Specific tasks that could result in exposure to respirable crystalline silica
- Specific measures that are required to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and required use of respiratory protection
- The contents of the 29 CFR 1926.1153
- The identity of the competent person
- Purpose of the medical surveillance program for tasks outside of Table 1

A written compliance program shall be made available to all affected employees.

VII. Audit

The RCS exposure plan shall be for evaluated, reviewed, and maintained at least annually by the Safety Administrator to evaluate program effectiveness.