



# PROPOSED RULE 403.2

## FUGITIVE DUST FROM LARGE ROADWAY PROJECTS

**PUBLIC WORKSHOP**

**March 2, 2022**

**1:00 PM**

**Join Zoom Webinar Meeting:**

**<https://scaqmd.zoom.us/j/91843096529>**

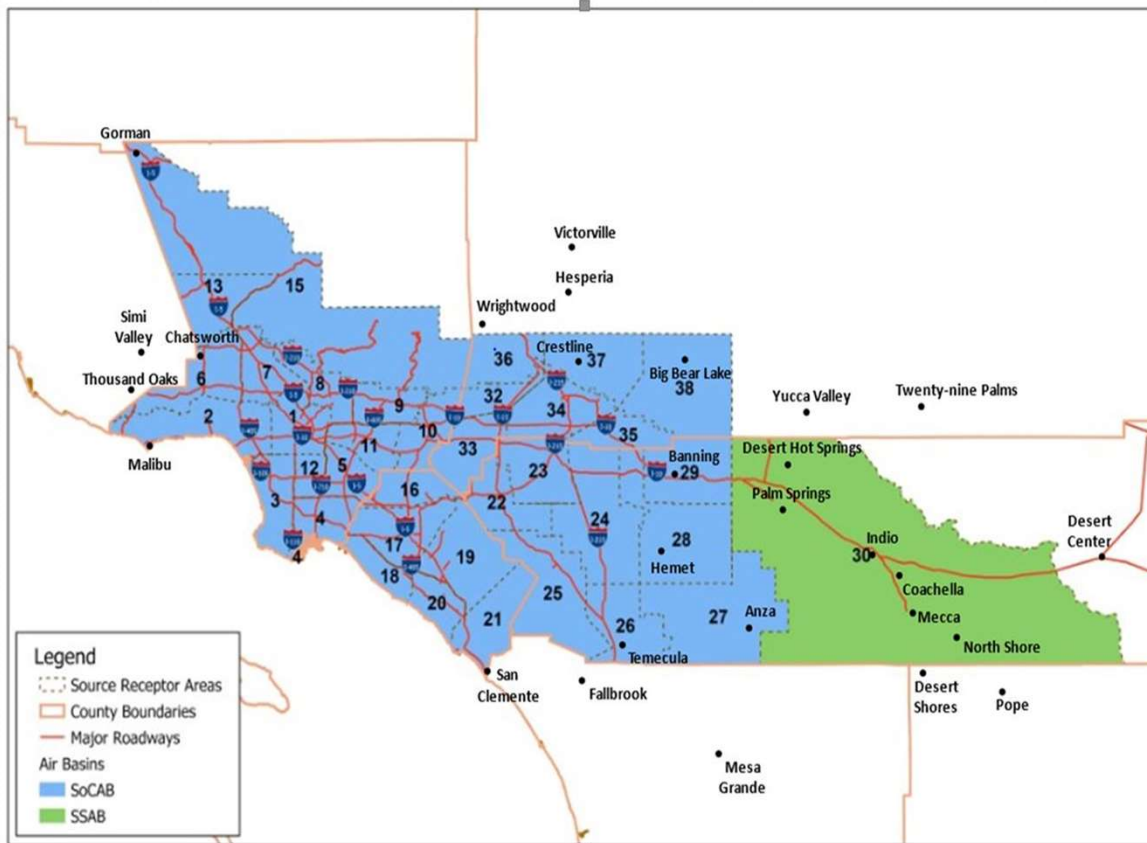
**Webinar ID: 918 4309 6529**

**Teleconference Dial-In: 1-669-900-6833**

**\*6 – Toggle mute/unmute**

**\*9 – Raise hand**

# Background – South Coast AQMD



- Regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange County, Riverside and San Bernardino counties
- ~17 million people (>40% of CA)
- Governed by a Board of local elected and appointed officials
- Monitor air quality to meet federal and state air quality standards
- Regulate air emissions from many sources (e.g., refineries, power plants, gas stations, aggregate and batch plants)
- Respond to complaints from the public

## Air Quality Impacts Near Large Roadways

- Many large roadway construction projects are located close to receptors due to existing land use
- Close proximity results in a small margin of error for fugitive dust to impact nearby areas of public exposures (e.g., homes and other occupied buildings)
- Temporary nature of construction/demolition can result in inconsistent application of fugitive dust controls compared to permanent sites such as quarries
- South Coast AQMD regularly receives complaints from the public regarding fugitive dust from roadway projects
- There have been over 78 large roadway fugitive dust related complaints since 2018
  - Complaints regarding freeway construction, large piles, material crushing, road dust

## Particulate Matter Impacts

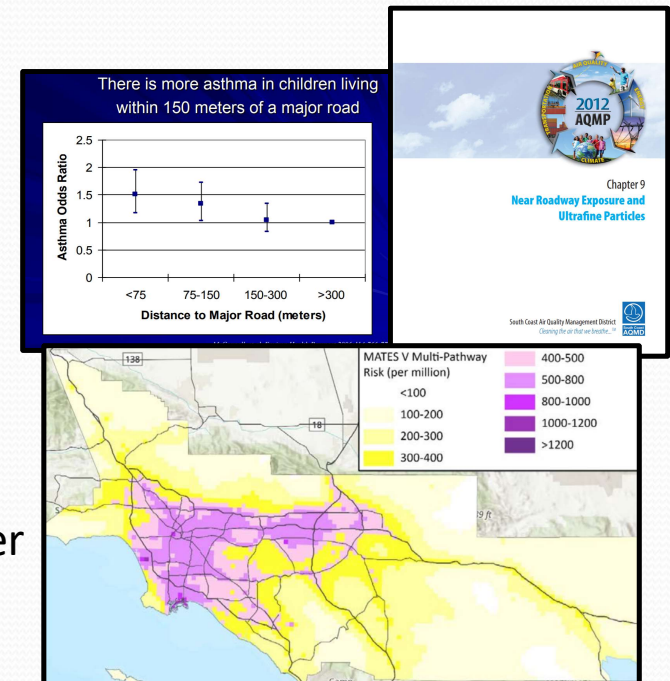
- Fugitive dust can become airborne from large roadway project activities including maintenance of material piles, aggregate crushing and grinding, and construction/demolition resulting in potential exposure to particulate matter emissions
- Health studies have shown a significant association between exposure to particle pollution and health risks including:
  - Premature death
  - Cardiovascular and respiratory impacts

# Hypothetical Example of Large Roadway Project Air Impacts



# Existing Air Quality Impacts Near Large Roadways

- Additionally, communities near large roadway projects are already disproportionately impacted, from other sources, by diesel particulate matter and other toxics, including associated increases to inhalation cancer risk
  - 2012 Air Quality Management Plan (Chapter 9 - Near Roadway Exposure and Ultrafine Particles)
  - 2013 Technology Forum on Near-Road Mitigation Measures and Technologies\*
  - 2021 MATES V study continues to show that near-road environments have higher health risks than areas farther away

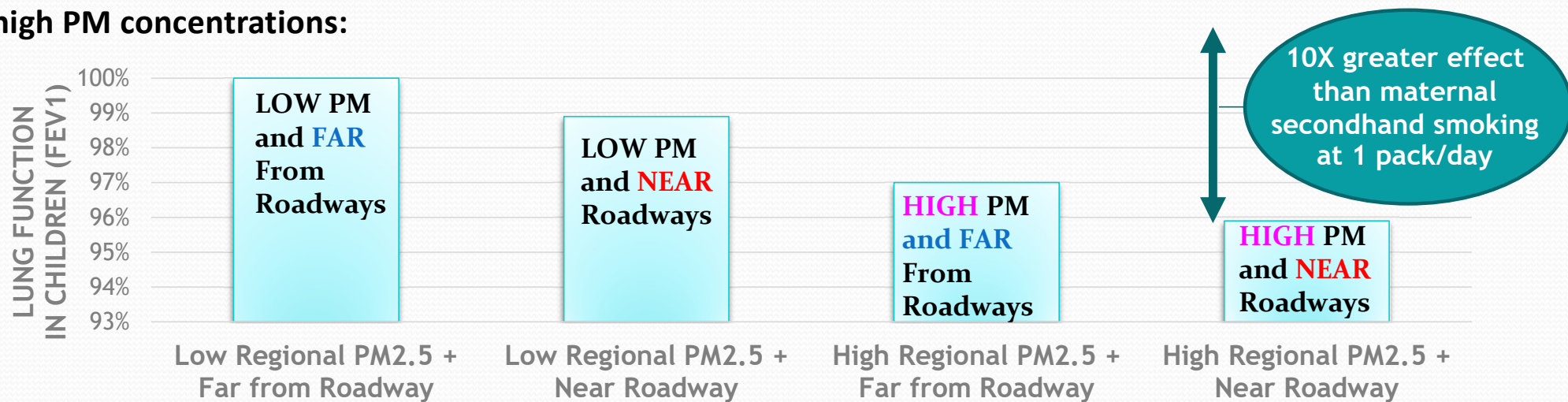


MATES V Study - Air Toxics Cancer Risk

\*[http://www.aqmd.gov/docs/default-source/technology-research/Technology-Forums/near-road-mitigation-measures/near\\_road\\_mitigation-agenda-presentations.pdf](http://www.aqmd.gov/docs/default-source/technology-research/Technology-Forums/near-road-mitigation-measures/near_road_mitigation-agenda-presentations.pdf)

# USC Children's Health Study

Results from the USC Children's Health Study show that **LUNG FUNCTION** decreases closer to larger roadways and especially so in regions with existing high PM concentrations:



Urman et al., 2014 Associations of children's lung function with ambient air pollution: joint effects of regional and near-roadway pollutants. Thorax



# **Large Roadway Project Activities and Equipment**



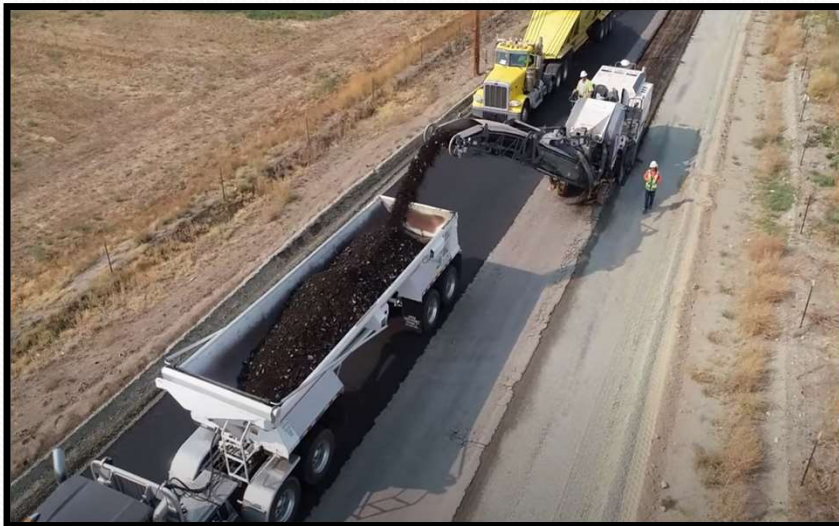
## Aggregate Crushing and Grinding

- Crushing – typically achieved by forcefully driving pieces of material against each other and parts of the crusher, resulting in the material being broken down into smaller pieces
- Grinding – typically reduces the size of the crushed material by abrasion of the surface of a material with a grinder to remove layers of a material



# Construction and Demolition

- Broadest ranges of activities and associated equipment types
- Construction would be any building activity; demolition would be any tearing out/down activity
- Milling and repaving is also included since it involves breaking through an existing roadway



# Earth-Moving Activities and Construction Vehicles

- Generally, new roadway construction/trenching
- Common equipment - scrapers, graders, excavators, and bulldozers



- Re-entrainment of roadway fugitive dust

# Material Piles

- Includes any combination of bulk material, construction/demolition debris, or typical roadway material
- Dust can be generated when piles are disrupted (e.g., wind, removal/addition to piles)



# Rule 403 – Fugitive Dust

## Applicability

- Any activity or man-made condition capable of generating fugitive dust:
  - Construction/Demolition, Earth-moving, & Vehicle Dust
  - Aggregate Related Plants – produce/mix sand, gravel & crushed stone

## Requirements

- Visible dust (PM) beyond the property line
- Maximum 20% opacity for dust caused from vehicles

## Controls

- Use Best Available Control Measures based on acres/throughput (e.g., tarping, enclosures & stabilizers)
- Vehicle Track-out <25 feet & remove end of day

# Rule 403 – Large Operations

## Additional Controls for Large Operations

- Any active operation on property which contains > 50 acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of > 3,850 cubic meters three times during the most recent 365-day period
  - Daily records of dust control actions
  - Project signage
  - Dust control supervisor – has authority to expeditiously mitigate fugitive dust
  - Submit Notification to South Coast AQMD
    - Notify when no longer large operation
    - Notification valid for one year only
    - Public notification not required

# Rule 1157 - PM10 Emission Reductions From Aggregate & Related Operations

## Applicability

- Permanent and temporary aggregate and related operations

## Requirements

- Fugitive dust opacity limits 20% (12 readings) or 50% (5 readings)
- No Plume  $\geq$  100ft in any direction from activity, equipment or area

## Controls

- Requirements to mitigate fugitive dust from:
  - Loading/Unloading
  - Crushing, grinding, conveyors and screening
  - Paved/unpaved roads
  - Track-out
  - Additional requirements triggered by recurrent violation

# Rule 1466 - Control of Particulate Emissions From Soils with Toxic Air Contaminants

## Applicability

- Earth-moving activities of soil with applicable toxic air contaminants

## Requirements

- Monitoring of PM10 concentrations
- Reduce to below 25 microgram/cubic meter averaged over 30 minutes

## Controls

- Fencing and covering of stockpiles
- Adequately wet to depth of earth-moving activity, and at sufficient frequencies
- Signage, no track-out, and notification requirements





## Need for Proposed Rule (PR) 403.2

- Existing rules either generally regulate sources [Rule 403], or have minimal requirements that are not adequately protective for large roadway projects
- Near large roadway communities are already disproportionately impacted by air quality issues
- Existing rules do not require notice or information to be provided to the public regarding potential dust generating activities
- Additional requirements are also needed to help minimize complaints from the public regarding large roadway potential fugitive dust concerns



# Proposed Rule 403.2

## PR 403.2 Rule Structure

- 
- (a) Purpose
  - (b) Applicability
  - (c) Definitions
  - (d) Requirements (Prohibitions)
  - (e) Additional Requirements
  - (f) Recordkeeping
  - (g) Exemptions

# Purpose & Applicability

- Purpose

- Reduce potential air quality impacts to people who may be exposed to fugitive dust generated by large roadway projects

- Applicability

- Any person who conducts activities or authorizes the conducting of activities for a large roadway project (as defined)
- Only applies to specific activities for a large roadway project that is either located within:
  - 500 feet of an area of public exposure; or
  - 1,000 feet of a sensitive receptor

## Definitions From Existing Rule 403

- BULK MATERIAL
- CHEMICAL STABILIZERS
- CONSTRUCTION/DEMOLITION ACTIVITIES
- DISTURBED SURFACE AREA
- DUST CONTROL SUPERVISOR
- DUST SUPPRESSANT
- EARTH-MOVING ACTIVITIES
- FUGITIVE DUST
- PARTICULATE MATTER
- PAVED ROAD
- PERSON [Rule 102]
- SCHOOL [Rule 1466]
- SENSITIVE RECEPTOR [Rule 1470]
- TRACK OUT
- TYPICAL ROADWAY MATERIALS
- UNPAVED ROAD

## New or Modified Definitions in PR 403.2

- **(c)(1) AGGREGATE CRUSHING AND GRINDING** means any activity that mechanically reduces the size of loose or stockpiled material to produce sand, gravel, crushed stone, quarried rock, or other aggregate material (such as recycled concrete/asphalt) [new definition]
- **(c)(2) AREA OF PUBLIC EXPOSURE** means any area within the property line of any office, commercial or industrial property as well as any park, or open space/recreational facility, including associated structures and amenities specifically designated by a governmental agency or private entity for recreational purposes. Examples include amusement parks, hiking trails, athletic fields, and campgrounds. Undeveloped open space areas that are not designated for recreation are not considered areas of public exposure for purposes of this Rule [new definition]
  - *For open space/recreational facilities, such as state or county parks, locations within the property line that are not designated for public, or staff use are excluded. For example, the buffer between a large roadway project and a park would begin at a trail or other designated recreational area.*

## New or Modified Definitions in PR 403.2

- **(c)(13) LARGE ROADWAY** means any portion of a roadway with an annual daily average number of vehicle trips in excess of 100,000 based on the most recent Federal Highway Administration (FHWA) Average Annual Daily Traffic (AADT) data available [new definition]
  - *Approaches including throughput of materials for the project, duration, type of equipment used, and the number of roadway lanes were evaluated for the definition*
  - *Best definition uses FHWA AADDT data and staff is working on providing a web reference for stakeholders to confirm if their project location is in or out*
- **(c)(15) MATERIAL PILE** means any accumulation of bulk materials, construction/demolition debris, excavated material, or typical roadway material which is not fully enclosed and attains a height of three feet or more and a total surface area of 150 or more square feet. Material piles located within 25 feet of each other as measured from the closest edge of each pile shall be considered to be part of a single material pile
  - *This definition was modified from the Rule 403 definition for “open storage pile” in order to better characterize the type of materials that a storage pile would comprise for a roadway project*

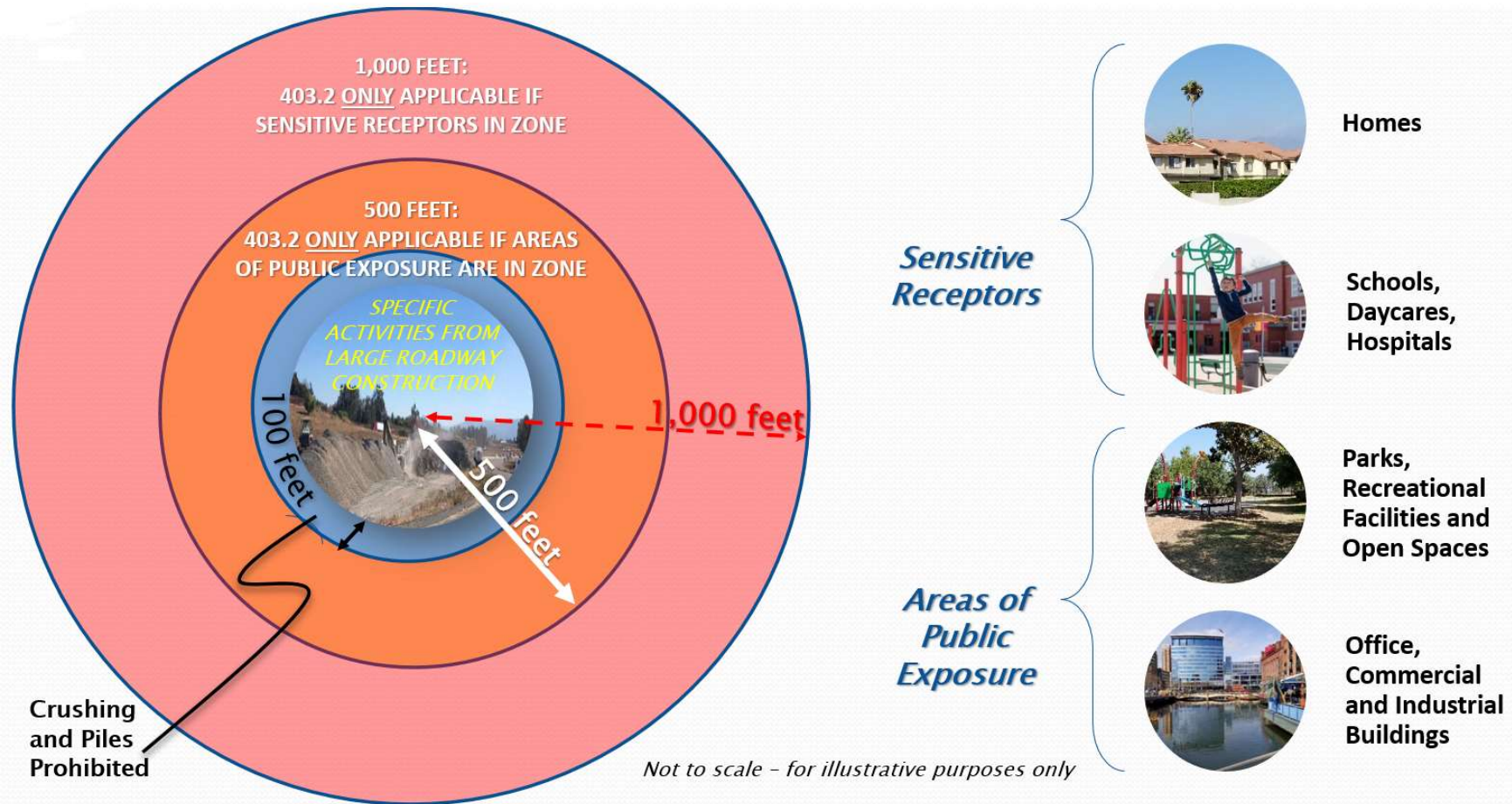
## Subdivision (d) – Requirements

### **Beginning [six (6) months after Date of Adoption] for any Large Roadway Project:**

- (d)(1) – No aggregate crushing and grinding operations or maintenance of a material pile within 100 feet of an area of public exposure or sensitive receptor
- (d)(2) – Following activities located within 500 feet of an area of public exposure, or 1,000 feet of a sensitive receptor shall comply with subdivision (e) Additional Requirements and (f) Recordkeeping:
  - (A) Aggregate crushing and grinding operations;
  - (B) Construction/demolition activities;
  - (C) Earth-moving or any other mechanical activity that results in disturbed surface areas;
  - (D) Movement of construction vehicles over paved and unpaved roads; or
  - (E) Maintenance of material piles.



# Tiered Approach for PR 403.2 Applicability



## Existing Local Measures Consistent with Subdivision (d)

- **City of San Bernardino**

- 10/21/2020 City Council Adopted Resolution #2020-265:
- No crushing/grinding on or within 1,000 ft of residential zoned lots

- **LA Metro Green Construction Policy**

- Minimum 1,000-foot buffer between truck traffic and sensitive receptors where feasible

## (e) Additional Requirements

- Only applicable for large roadway projects within:
  - 500 feet of an area of public exposure, or
  - 1,000 feet of a sensitive receptor
  - Large roadway projects beyond these distances are not subject to rule
- Four components for applicable large roadway projects:
  - (e)(1) Dust Control Supervisor
  - (e)(2) Additional Control Measures
  - (e)(3) Signage
  - (e)(4) Notification
- Mirrors Rule 403 Large Operation provisions

## (e)(1) Dust Control Supervisor

- Required for each large roadway project subject to PR 403.2
  - *LA Metro Green Construction Policy requires Community Liaison*
- Must hold a valid Certificate of Completion for South Coast AQMD's Fugitive Dust Class
- Responsible person for resolving large roadway project fugitive dust issues
- Must be on-site or available within 30 minutes of an air quality issue
- Responsible for generating and maintaining daily recordkeeping

## (e)(2) Additional Control Measures\*

|   |   |
|---|---|
| <b>Aggregate Crushing and Grinding Operations</b>   | <ul style="list-style-type: none"> <li>• Stabilize surfaces prior to operation of equipment</li> <li>• Stabilize aggregate material piles after aggregate crushing and grinding</li> <li>• Dust plume maximum 100 feet from the activity to receptor</li> </ul>   |
| <b>Earth Moving Activities; Construction/Demolition; or Disturbed Surface Areas</b>                         | <ul style="list-style-type: none"> <li>• Dust suppressant as necessary to maintain a stabilized surface and to prevent visible emissions from extending farther than 100 feet</li> </ul>  |
| <b>Dust from Construction Vehicles</b><br><b>(Implement all controls)</b>                                   | <ul style="list-style-type: none"> <li>• Apply dust suppressant as necessary to prevent visible emissions during vehicle operation; and</li> <li>• Limit vehicle speed to 15 miles per hour on roadways; and</li> <li>• Cover frequently traveled unpaved roads and unpaved parking areas with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); and</li> <li>• Treat unpaved roads with a dust suppressant, mulch, or other cover to maintain a stabilized surface; and</li> <li>• Remove dust from paved roadways and construction vehicles as required to prevent track out or entrained dust by washing, vacuum sweeping, broom sweeping or any other mechanical means that does not generate fugitive dust.</li> </ul> |
| <b>Material Piles</b><br><b>(One or more controls measures, as needed, to ensure fugitive dust control)</b> | <ul style="list-style-type: none"> <li>• Maintain a maximum height of 20 feet; and</li> <li>• Apply dust suppressant as necessary, but no less than twice per hour to maintain a stabilized surface and prevent visible emissions from extending farther than 100 feet; or</li> <li>• Install coverings; or</li> <li>• Install an enclosure with a minimum of three sides (open side facing farthest from potentially impacted areas).</li> </ul>   |

\*Consistent with current Rule 403 Table 2 except for maintaining a maximum height of 20 feet for material piles

## (e)(3) Signage

- Mirrors Rule 403 Large Project and Fugitive Dust Implementation Handbook requirements
  - Within 50 feet of project entrance
  - Max 4 signs per project
  - 1 sign sufficient for multiple entrances within 300 yards of each other
  - Contact information for public to resolve fugitive dust issues with Dust Control Supervisor – then South Coast AQMD

| Sign Content  | Height (inches) |
|---|-----------------|
| Permit # (if applicable)  | 4               |
| Site Name   | 4               |
| Project Name / Tract #####  | 4               |
| IF YOU SEE DUST COMING FROM THIS PROJECT<br>CALL                                    | 4               |
| Name, Phone Number (###) ###-####   | 6               |
| If you do not receive a response, please call South Coast<br>AQMD at 1-800-CUT-SMOG | 3               |

Dust Control Supervisor Contact Info

## (e)(4) Notification

- (e)(4)(A) – Notification to Areas of Public Exposure and Sensitive Receptors
  - Notify receptors within 500 feet of an area of public exposure, and within 1,000 feet of a sensitive receptors, 120 hours before commencement of activities
    - ✓ *LA Metro Green Construction Policy requires 30-day written notice to sensitive receptors within 1,000 ft*
  - Dust control supervisor and owner contact information,
  - Project commencement and completion dates and duration, and
  - Project location, coordinates and map
- (e)(4)(B) – Notification to the South Coast AQMD
  - Elements of (e)(4)(A); and
  - List of permitted (including CARB) aggregate crushing and grinding equipment

## (f) Recordkeeping

- Mirrors Rule 403 Large Project provisions and reporting format
- List of project construction equipment, **control measure and frequency** (e.g., crushing and grinding, sprinkler dust suppression, every 30 minutes)
- Minimum control requirements based on project size, activity/equipment type, and location, and distances
- Dust control supervisor responsible for the generation of daily records
- Responsible person/dust control supervisor to retain records for a minimum of 3 years
- Provide records to South Coast AQMD when requested (see staff report for sample)



## (g) Exemptions

- **Emergencies** - where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss of impairment of life, health, property, or essential public service, or in conjunction with any officially declared disaster or state of emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer or other authorized health officer & *Notify South Coast AQMD within 48 hours*
- **Utility Outage/Disruption** - a large roadway project conducted by essential service utilities to provide electricity, natural gas, telephone, water or sewer during periods of service outages and emergency disruptions & *Notify South Coast AQMD within 48 hours*
- **Linear Trenching** - for natural gas, power, sewer, and water projects on large roadways that are directly loaded into a truck bed, trailer, or bin for transport would be exempted from the prohibition of material piles specified in paragraph (d)(1) and signage requirements under paragraph (d)(3)

# California Environmental Quality Act (CEQA)

- The proposed project (PR 403.2) seeks to minimize emissions large roadway projects without involving physical modifications that would cause a significant adverse effect on the environment
- PR 403.2 is anticipated to be exempt from CEQA pursuant to:
  - CEQA Guidelines Section 15061 (b)(3) – Common Sense Exemption, which exempts activities where it can be seen with certainty that there is no possibility that the activities may have a significant adverse effect on the environment
  - CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment
- If PR 403.2 is determined to be exempt, a Notice of Exemption will be prepared

# Socioeconomic Assessment

- California Health and Safety Code Section 40440.8
  - Requires socioeconomic impact assessment for proposed rule or rule amendment which “will significantly affect air quality or emissions limitations”
- Socioeconomic Impact Assessment shall consider:
  - Type of affected industries, including small businesses
  - Range of probable costs, including costs to industry or business
- Minimal cost impacts are expected from PR 403.2
- Socioeconomic Impact Assessment will be available in the draft staff report 30 days prior to the Public Hearing



## Public Process

- 4 Working Group Meetings on 7/15/21, 10/22/21, 12/14/21 and 1/20/22
  - Develop concepts and solicit stakeholder input for fugitive dust rule impacting communities
- Over 20 stakeholder meetings to discuss concepts and concerns
- Changes to Rule Concepts
  - Earlier concepts were broader in scope and applicability
  - Previously included all large demolition piles at all large construction/demolition projects

## Staff Modifications to PR 403.2

- Staff is committed to reviewing stakeholder requests and comments as they are received for additional modifications to PR 403.2
- Staff is considering modifications to the following proposed rule language:
  - Qualifying the conditions for when a material pile would be prohibited within 100 ft of an area of public exposure or sensitive receptor
  - Exemption for large roadway projects that occur for a short duration of time
  - Exemption for minor maintenance activities



## Next Steps

- March 16, 2022 – End of Comment Period
- March 18, 2022 – Stationary Source Committee Meeting
- April 1, 2022 – Set Hearing
- April 6, 2022 – Release of 30-day Package
- May 6, 2022 – Public Hearing

# PR 403.2 Staff Contacts

## PR 403.2 Questions

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# Questions/Comments