

1 [Requiring Air Quality Assessment and Ventilation for Certain Urban Infill Residential  
2 Developments.]

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4 **Ordinance amending the San Francisco Health Code by adding new Article 38 to**  
5 **require air quality assessment and ventilation for certain urban infill residential**  
6 **developments; amending the San Francisco Building Code by adding a third paragraph**  
7 **to Section 1203.5 and amending the San Francisco Mechanical Code by adding new**  
8 **Section 419 to require special ventilation systems for certain urban infill residential**  
9 **developments; making environmental findings; adopting findings of local conditions**  
10 **pursuant to California Health and Safety Code Section 17958.7, and directing the Clerk**  
11 **of the Board of Supervisors to forward this Ordinance to the California Building**  
12 **Standards Commission.**

13 Note: Additions are *single-underline italics Times New Roman*;  
14 deletions are ~~*strikethrough italics Times New Roman*~~.  
15 Board amendment additions are double underlined.  
16 Board amendment deletions are ~~strikethrough normal~~.

17 Be it ordained by the People of the City and County of San Francisco:

18 Section 1. Environmental Findings. The Planning Department has determined that the  
19 actions contemplated in this Ordinance are in compliance with the California Environmental  
20 Quality Act (California Public Resources Code sections 21000 et seq.). Said determination is  
21 on file with the Clerk of the Board of Supervisors in File No. \_\_\_\_\_, and is incorporated  
22 herein by reference.

23 Section 2. Findings Regarding Local Conditions and Directions to the Clerk. California  
24 Health and Safety Code Section 17958.7 provides that before making any changes or  
25 modifications to the California Building Code and the California Mechanical Code and any  
other applicable provisions published by the California Building Standards Commission, the

1 governing body must make an express finding that each such change or modification is  
2 reasonably necessary because of specified local conditions, and the findings must be filed  
3 with the California Building Standards Commission before the local changes or modifications  
4 can become effective.

5 The Board of Supervisors finds that:

6 (1) The topography of San Francisco has led to development of a high density of  
7 buildings on small lots, and often in close proximity to major roadways, necessitating special  
8 provisions for ventilation. (Topography).

9 (2) High building density and crowded occupancy has left fewer parcels available for  
10 residential development than needed to satisfy regional demand, and many of those sites are  
11 in close proximity to major roadways, necessitating special provisions for ventilation.  
12 (Topography).

13 (3) The configuration of the City as a peninsula restricts the availability of land suitable  
14 for residential development, leading such development to sites that are close to major  
15 roadways, necessitating special provisions for ventilation. (Topography).

16 (4) The region is subject to strong winds, which often direct roadway air pollutants to  
17 surrounding areas. (Climate).

18 Pursuant to the applicable California Health and Safety Code Sections, the Board of  
19 Supervisors finds and determines that these local conditions give rise to the need for  
20 modification of the 2007 California Building Code and the 2007 California Mechanical Code  
21 provisions published by the Building Standards Commission. Further, the Board finds and  
22 determines that the proposed modifications are reasonably necessary based on these local  
23 conditions.

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1 Section 2. The San Francisco Building Code is hereby amended by adding a third  
2 paragraph to Section 1203.5, to read as follows:

3 Sec. 1203.5. Add a third paragraph as follows:

4 On residential building sites located within the Potential Roadway Exposure Zone, as  
5 determined by the Director of Public Health pursuant to Article 38 of the San Francisco Health Code,  
6 and with a PM 2.5 concentration attributable to Local Roadway Traffic Sources, as defined in such  
7 Article 38, greater than 0.2 ug/m3, the ventilation system for residential units shall be engineered to  
8 remove >80% of ambient PM 2.5 from indoor areas.

9 Section 3. The San Francisco Mechanical Code is hereby amended by adding new  
10 Section 419, to read as follows:

11 Sec. 419. Air Quality Assessment and Ventilation Requirement for Urban Infill Residential  
12 Developments.

13 On residential building sites located within the Potential Roadway Exposure Zone, as  
14 determined by the Director of Public Health pursuant to Article 38 of the San Francisco Health Code,  
15 and with a PM 2.5 concentration attributable to Local Roadway Traffic Sources, as defined in such  
16 Article 38, greater than 0.2 ug/m3, the ventilation system for residential units shall be engineered to  
17 remove >80% of ambient PM 2.5 from indoor areas.

18 Section 4. The San Francisco Health Code is hereby amended by adding Article 38, to  
19 read as follows:

20 ARTICLE 38: AIR QUALITY ASSESSMENT AND VENTILATION REQUIREMENT FOR  
21 URBAN INFILL RESIDENTIAL DEVELOPMENTS.

22 SEC. 3801. SHORT TITLE. This Article shall be entitled "Air Quality Assessment and  
23 Ventilation Requirement for Urban Infill Residential Developments."

24 SEC. 3802. FINDINGS.

1           (a) Motor vehicles are a major source of air pollution in the United States, particularly in  
2 urban areas;

3           (b) Pollution from motor vehicles imposes severe health burdens on children and families  
4 living near freeways and busy roadways. Health research has consistently shown that persons living in  
5 close proximity to freeways or busy roadways have poorer lung functions and are more susceptible to  
6 develop asthma and other respiratory problems, compared with persons living at a greater distance;

7           (c) To avoid the health problems associated with exposure to roadway pollution, the California  
8 Air Resources Board recommends avoiding the placement of residential and other sensitive uses within  
9 500 feet (approximately 150 meters) of busy freeways and other busy roadways. However, significant  
10 residential development in the state is occurring in urban infill sites, near freeways or busy arterial  
11 roadways, potentially increasing these residents' exposure to air pollutants and their associated health  
12 risks; and

13           (d) This situation is exacerbated in the City of San Francisco, which, by virtue of being located  
14 on a peninsula, has a limited amount of land available for new residential development.

15           SEC. 3803. DEFINITIONS.

16           For the purposes of this Article, the following words shall have the following meanings:

17           (a) "Applicant" means a person applying for any building permit as specified by Section 106.1  
18 of the San Francisco Building Code.

19           (b) "Department" means the San Francisco Department of Public Health.

20           (c) "Director" means the Director of the San Francisco Department of Public Health or the  
21 Director's designee.

22           (d) "Licensed Engineer" means a person licensed by the California Board of Professional  
23 Engineers and Land Surveyors, or an equivalent board from another state, and who is authorized to  
24 work as an engineer in the State of California.

1           (e) "Local Roadway Traffic Sources" means traffic generated on roadways within 200 meters  
2 from the building site.

3           (f) "PM 2.5" means solid particles and liquid droplets found in the air, that are less than 2.5  
4 micrometers in diameter, which scientific studies have linked with a series of significant health  
5 problems, including premature mortality, increased respiratory symptoms, decreased lung function,  
6 asthma and bronchitis.

7           (g) "Potential Roadway Exposure Zone" means those areas within the City and County of San  
8 Francisco which, by virtue of their proximity to freeways and major roadways, may exhibit high PM  
9 2.5 concentration attributable to Local Roadway Traffic Sources, concentration which can cause  
10 serious asthma and other respiratory problems to persons that reside therein.

11           (h) "Potential Roadway Exposure Zone Map" means a map, prepared and periodically updated  
12 by the Director and available to the public in the Department's website, depicting the Potential  
13 Roadway Exposure Zone.

14           SEC. 3804. APPLICABILITY OF ARTICLE.

15           An Applicant shall comply with this Article when:

16           (a) the parcel of land or part thereof for which the Applicant seeks a building permit is located  
17 in any area of the City and County of San Francisco within the Potential Roadway Exposure Zone, as  
18 shown in the Potential Roadway Exposure Zone Map, and

19           (b) The building permit sought is for a residential or mixed use project with ten or more new  
20 dwelling units.

21           SEC. 3805. POTENTIAL ROADWAY EXPOSURE ZONE AND POTENTIAL ROADWAY  
22 EXPOSURE ZONE MAP.

1           (a) Pursuant to Section 4.110 of the Charter of the City and County of San Francisco, the  
2 Director shall create a Potential Roadway Exposure Zone Map, depicting the Potential Roadway  
3 Exposure Zone.

4           (b) The Director shall from time to time update the Potential Roadway Exposure Zone Map, to  
5 account for changes in circumstances that lead to changes in the Potential Roadway Exposure Zone,  
6 including, but not limited, to:

7           (1) Construction of new roadways in residential areas;

8           (2) Changes in traffic patterns in the City's roadway system; or

9           (3) Specific scientific data showing that certain areas should be included in the Potential  
10 Roadway Exposure Zone Map.

11           (c) The Director shall post the Potential Roadway Exposure Zone Map in the Department's  
12 website, and make paper copies of the map available to the public upon request.

13           (d) In creating and updating the Potential Roadway Exposure Zone Map, the Director shall  
14 follow the procedures of Section 3811, and shall make specific findings explaining how the boundaries  
15 of the Potential Roadway Exposure Zone Map reflect the standard of Section 3803(g).

16           SEC. 3806. AIR QUALITY ASSESSMENT AND AIR QUALITY REPORT

17           (a) An Applicant who meets the conditions of Section 3804 shall cause an environmental  
18 professional competent in air quality modeling and assessment, to perform an Air Quality Assessment,  
19 to evaluate the concentration of PM 2.5 from Local Roadway Traffic Sources at the site. All locations  
20 at the site where residential buildings or construction may occur shall be evaluated. The Department  
21 shall develop guidance, pursuant to Section 3811, setting forth what types of analyses shall be  
22 conducted. The Applicant shall follow the Department's guidance, unless an alternative proposal is  
23 approved in writing by the Director.

1 (b) At the completion of the Air Quality Assessment required by Section 3806(a), the Applicant  
2 shall submit an Air Quality Report to the Director. The Air Quality Report shall contain the following  
3 information:

4 (1) The names, addresses and professional expertise of the persons who conducted the Air  
5 Quality Assessment;

6 (2) An explanation of the methodology used in the Air Quality Assessment; and

7 (3) The results of the Air Quality Assessment.

8 (c) Review by the Director. The Director shall determine whether the Air Quality Report  
9 required by this Article was conducted as required by this Article, and whether the Air Quality Report  
10 is complete. If the Air Quality Report was not conducted as required by this Article or does not comply  
11 with the requirements of this Section, the Director shall notify the Applicant in writing within 30 days  
12 of receipt of the Air Quality Report, indicating the reasons the report is unacceptable. A copy of the  
13 notification shall be sent to the Director of Building Inspection.

14 (d) Finding of No Dangerous PM 2.5 Concentration. If the Air Quality Report indicates that  
15 the concentration level of PM 2.5 from Local Roadway Traffic Sources at the site is less than 0.2  
16 ug/m3, the Director shall provide the Applicant and the Director of Building Inspection with written  
17 notification that the Applicant has complied with the requirements of this Article.

18 SEC. 3807. VENTILATION REQUIREMENT

19 (a) If the Air Quality Report indicates that the concentration level of PM 2.5 from Local  
20 Roadway Traffic Sources at the site is greater than 0.2 ug/m3 and the Applicant wants to pursue  
21 development of the site, the Applicant shall:

22 (1) Redesign the project, or relocate the project within the site, in a way that would avoid  
23 residential exposure to PM 2.5 concentration from Local Roadway Traffic Sources greater than 0.2  
24 ug/m3, as demonstrated by the Air Quality Report, or

1           (2) Submit to the Director a Ventilation Proposal, prepared by a Licensed Engineer, to install  
2 in the project a ventilation system to meet the requirements of San Francisco Building Code Section  
3 1203.5 and San Francisco Mechanical Code Section 419. The Applicant shall send a copy of such  
4 proposal to the Director of Building Inspection.

5           (b) The Ventilation Proposal shall explain in detail how the Applicant will achieve the  
6 standards mandated by San Francisco Building Code Section 1203.5 and San Francisco Mechanical  
7 Code Section 419. The Ventilation Proposal shall include a statement signed by the Licensed Engineer  
8 who prepared it, certifying that in his or her judgment the ventilation system proposed will remove  
9 >80% of ambient PM 2.5 from indoor areas.

10           SEC. 3808. CERTIFICATION

11           (a) The Applicant shall certify under penalty of perjury to the Director that:

12           (1) The Air Quality Report established that the concentration level of PM 2.5 from Local  
13 Roadway Traffic Sources at the site is less than 0.2 ug/m3; or

14           (B) The Applicant has made provisions for the installation of the ventilation system proposed  
15 in the Ventilation Proposal.

16           (b) Applicant Declarations. The certification shall state:

17           "The Applicant recognizes that it has a nondelegable duty to install ventilation system in  
18 compliance with San Francisco Building Code Section 1203.5 and San Francisco Mechanical Code  
19 Section 419; that it, and not the City, is responsible for the installation and proper functioning of such  
20 system; that it, and not the City, attests to and is responsible for the accuracy the representations made  
21 in the Certification, and that it will continue to remain liable and responsible, to the extent such  
22 liability or responsibility is imposed by State and federal law, for its failure to perform in accordance  
23 to the law."

24           SEC. 3809. NOTIFICATION TO THE DIRECTOR OF BUILDING INSPECTION  
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1 After receipt of the Certification required by Section 3808, the Director shall provide the  
2 Applicant and the Director of Building Inspection with written notification that the Applicant has  
3 complied with the requirements of this Article.

4 SEC. 3810. MAINTENANCE OF DOCUMENTS BY DIRECTOR

5 The Air Quality Report, Ventilation Proposal, Certification and related documents shall become  
6 part of the file maintained by the Department. Such file shall be available to the public upon request.

7 SEC. 3811. RULES AND REGULATIONS

8 (a) Adoption of Rules. The Director may adopt, and may thereafter amend, rules, regulations  
9 and guidelines that the Director deems necessary to implement the provisions of this Article. For the  
10 purposes of this Article, a public hearing before the Health Commission shall be held prior to the  
11 adoption or any amendment of the rules, regulations and guidelines recommended for implementation,  
12 including creation and amendments to update the Potential Roadway Exposure Zone Map. In addition  
13 to notices required by law, the Director shall send written notice, at least 15 days prior to the hearing,  
14 to any interested party who sends a written request to the Director for notice of hearings related to the  
15 adoption of rules, regulations and guidelines pursuant to this Section.

16 In developing such regulations, the Director shall consider, inter alia, State and federal  
17 statutes, regulations and guidelines pertaining to the health effects of roadway air pollutants.

18 (b) Guidelines for Regulations. Rules, regulations and guidelines may address among others,  
19 the following subjects:

20 (1) Minimum standards for acceptable Air Quality Assessment tests. The minimum standards  
21 shall be designed to assist interested persons including, but not limited to, the Director of Building  
22 Inspection, other state and local public agencies and Licensed Engineers, to evaluate whether analyses,  
23 other than those required by Section 3806(a) must be conducted to detect the presence of harmful  
24 roadway air pollutants;

1           (2) Minimum education and experience requirements for the persons who prepare Air Quality  
2           Assessments pursuant to Section 3806(a) and Ventilation Proposals pursuant to Section 3807; and  
3           (3) Creation and Periodic Updates of the Potential Roadway Exposure Zone Map.

4           SEC. 3812. NOTIFICATION REQUIREMENT

5           (a) For each project subject to this Article, the Director shall prepare a summary of the  
6           requirements of this Article. The Director shall maintain that summary in the project's file, together  
7           with the rest of the project's documents required by Section 3810.

8           (b) Notification to Buyer. Before selling any dwelling unit, the Applicant shall provide a copy  
9           of the summary prepared pursuant to Section 3812(a) to the buyer or buyers of that unit, and shall  
10           obtain a written receipt from the buyer or buyers acknowledging receipt of the summary. Failure to  
11           give notice as required by this Section shall not excuse or exempt the buyer of the property from  
12           compliance with the requirements of this Article.

13           (c) Informational Plaque. Prior to issuance of a certificate of occupancy, the Applicant shall  
14           cause an informational plaque to be placed in a conspicuous location in the building lobby at street  
15           level. The plaque shall contain the summary required by Section 3812(a), and inform residents and  
16           visitors that further information on the project's compliance with this Article is available upon request  
17           at the Department. The plaque shall be of no less than 24 inches by 36 inches in size, unless  
18           specifically reduced by the Director in cases where the nature, size, or other constraints would make  
19           these dimensions inappropriate.

20           SEC. 3813. MAINTENANCE REQUIREMENT

21           (a) The ventilation systems installed pursuant to Section 3807 shall be properly maintained,  
22           following standard practices, and as specified by the manufacturer.

23           (b) Applicants shall preserve documentation of their actions installing and/or maintaining the  
24           ventilation systems for five years after installation.

1           (c) The Director may, at his discretion, require periodic reports on the maintenance of the  
2 ventilation systems installed pursuant to Section 3807.

3           SEC. 3814. ENFORCEMENT

4           (a) The Director may, at its discretion, conduct inspection visits to buildings for which a  
5 Certification has been presented pursuant to Section 3807.

6           (b) The Director may enforce the provisions of this Article against violations by serving notice  
7 requiring the correction of any violation of the requirements of this Article within a reasonable time  
8 specified by the Director. Upon the violator's failure to comply with the notice within the time period  
9 specified, the Director may request the City Attorney to maintain an action for injunction to enforce the  
10 provisions of this Article and for assessment and recovery of a civil penalty for such violation.

11           (c) In undertaking the enforcement of this Article, the City and County of San Francisco is  
12 assuming an undertaking only to promote the general welfare. It is not assuming, nor is it imposing on  
13 its officers and employees, an obligation for breach of which it is liable in money damages to any  
14 person who claims that such breach proximately caused injury.

15           SEC. 3815. NO CONFLICT WITH FEDERAL OR STATE LAW

16           Nothing in this Article shall be interpreted or applied so as to create any requirement, power,  
17 or duty in conflict with any federal or state law.

18           SEC. 3816. SEVERABILITY.

19           If any section, subsection, sentence, clause, or phrase of this Article is for any reason held to be  
20 invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not  
21 affect the validity of the remaining portions of the Article. The Board of Supervisors hereby declares  
22 that it would have passed this Article and each and every section, subsection, sentence, clause, or  
23 phrase not declared invalid or unconstitutional without regard to whether any portion of this Article  
24 would be subsequently declared invalid or unconstitutional.

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SEC. 3817. UNDERTAKING FOR THE GENERAL WELFARE.

In adopting and implementing this Article, the City and County of San Francisco is assuming an undertaking only to promote the general welfare. It is not assuming, nor is it imposing in its officers and employees, an obligation for breach of which it is liable in money damages to any person who claims that such breach proximately caused injury.

Section 5. Upon final passage of this Ordinance, the Clerk of the Board of Supervisors is hereby directed to transmit this Ordinance to the California Building Standards Commission pursuant to the applicable provisions of California law.

APPROVED AS TO FORM:  
DENNIS J. HERRERA, City Attorney

By: ANDREA RUIZ-ESQUIDE  
Deputy City Attorney