

Appendix E
IMPLEMENTATION DOCUMENTS

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The documents provided in this appendix are designed to be used in implementing various portions of the Noise Compatibility Program for Phoenix Sky Harbor International Airport. They include:

- Proposed Noise Overlay Zoning Provisions for Phoenix and Tempe.
- Suggested Format - Noise and Avigation Easement.
- Suggested Format - Fair Disclosure Statement.

While care has been taken to ensure that these proposed legal documents accurately reflect the substance of the consultant's recommendations, it is possible that the form and language of these instruments may need to be altered to conform with local laws and customs. It is important that these instruments be reviewed by City attorneys prior to their use or adoption.

PROPOSED NOISE OVERLAY ZONING PROVISIONS

City of Phoenix: Amend City Ordinance No. G-449, as amended, the Zoning Ordinance for the City of Phoenix;

City of Tempe: Amend City Ordinance No. 808, Zoning Ordinance of the City of Tempe;

(The following zoning provisions are complete but are not provided in a codified form.)

SECTION 1.00. DEFINITIONS.

1.01. Day-Night Sound Level (Ldn): A cumulative aircraft noise index which estimates the exposure to aircraft noise and relates the estimated exposure to an expected community response. The Day-Night Sound Level noise metric assesses a 10 dB penalty to all noise events occurring between 10:00 p.m. and 7:00 a.m.

1.02. Ldn Contour: A line linking together a series of points of equal cumulative noise exposure based on the Ldn metric. Such contours are developed based on aircraft flight patterns, number of daily aircraft operations by type of aircraft and time of day, noise characteristics of each aircraft, and typical runways usage patterns.

1.03. Navigable Airspace: The airspace above the minimum altitudes of flight prescribed by regulations issued under the Federal Aviation Act of 1958, Section 101 (24) 49 United States Code 1301, including the airspace needed to ensure safety in the take-off and landing of aircraft.

SECTION 2.00. NOISE COMPATIBILITY ZONES ESTABLISHED. Noise compatibility zones for the area around Phoenix Sky Harbor International Airport are hereby established based on the Ldn contours for aircraft noise developed for conditions forecast to exist in 1992.

2.01. N-1 Zone. The N-1 zone generally corresponds to the area between the Ldn 65 and 70 contours.

2.02. N-2 Zone. The N-2 zone generally corresponds to the area between the Ldn 70 and 75 contours.

2.03. N-3 Zone. The N-3 zone generally corresponds to the area within the Ldn 75 contour.

SECTION 3.00. NOISE OVERLAY ZONE BOUNDARIES. The boundaries of the Noise Overlay Zones are shown on the Official Zoning Map. The boundaries generally correspond to the Ldn 65, 70, and 75 contours prepared as part of the Phoenix Sky Harbor International Airport Noise Compatibility Plan. Because of the averaging inherent in making Ldn calculations and the assumptions necessary in the forecasting procedure, the Ldn contour lines are not capable of being precisely defined in the field. Therefore, the boundaries between the noise overlay zones, while bearing a very close relationship to the Ldn contour lines, have been adjusted to facilitate understanding and agreement as to the location of the boundaries.

SECTION 4.00. USES PROHIBITED. Land uses prohibited in the noise overlay zones shall be as specified in the Table of Land Use Compatibility Standards. (Table 7J, Part 150 Study).

SECTION 5.00. SOUNDPROOFING REQUIRED. Soundproofing shall be required for construction or establishment of certain new land uses in each of the noise overlay zones as shown in the Table of Land Use Compatibility Standards. Where soundproofing is required, no building permits shall be issued until the builder has demonstrated that the building design is capable of achieving the Noise Level Reduction required in the Table of Land Use Compatibility Standards. This requirement can be met in one of two ways as described in the following subsections.

5.01. Design Standards. If the building design incorporates the design standards described in Section 6.00, the design shall be considered to have met the required soundproofing standard.

5.02. Performance Standards. The builder can choose, at his or her option, to use design features other than those described in Section 6.00 as long as the final design is capable of achieving the Noise Level Reduction required in the Table of Land Use Compatibility Standards. Such noise attenuation capability shall be certified on the building plans by a registered architect, structural engineer, or acoustician.

SECTION 6.00. SOUNDPROOFING DESIGN STANDARDS. The construction methods and materials described in this section shall be considered to satisfy the Noise Level Reduction standards set forth in the Table of Land Use Compatibility Standards.

6.01. Noise Level Reduction of 25 Decibels (dB).

6.01(a). If wood frame construction is used, all exterior stud walls shall have interior and exterior surfaces of an approved material at least as massive as half-inch thick gypsum wallboard, and the intervening space shall contain fibrous thermal insulation at least three inches thick.

6.01(b). The design for a habitable room shall be such that any exterior door or window can be kept closed when the room is in use. Means of ventilation shall be available to afford a minimum of two complete air changes per hour.

6.01(c). Any air duct or connection to out-of-doors shall contain an interior sound absorbing lining acoustically equivalent at least to fiberglass duct liner one inch thick and length greater than five times the diameter of the duct.

6.01(d). The ceiling below an attic space shall include gypsum board or plaster at least one-half inch thick; fibrous thermal insulation at least three inches thick shall be laid between the ceiling joists.

6.01(e). A forced air circulation system shall be provided that will give a minimum of two complete air changes per hour, of which at least one-fifth is fresh air.

6.01(f). A ceiling or exhaust duct shall be provided with a bend in the duct such that there is no direct line of sight through the duct from outside to inside. The bend shall be lined with the equivalent of fiberglass duct liner one inch thick.

6.01(g). There shall be no direct openings, such as mail slots, from the interior to the exterior of the building. All chimneys shall be provided with well-fitting dampers.

6.01(h). Exterior hinged doors shall be solid-core construction. Jalousie windows shall not be permitted. The total area of glass windows and of any exterior door to a sleeping space shall not exceed 20 percent of the floor area of a room.

6.01(i). Workmanship on doors and openable windows shall be such that the doors and windows are as close fitting as possible or weather stripping seals shall be incorporated on all edges to eliminate gaps. Air gaps and rattling shall be prevented.

6.01(j). Masonry walls, if used, shall be at least equivalent in weight to six-inch light-weight concrete blocks, at least one surface of which is painted or plastered.

6.01(k). The roof deck shall weigh at least seven pounds per square foot, containing a solid core at least one and one-half inches thick.

6.02. Noise Level Reduction 30 Decibels (dB).

6.02(a). Window glass shall be set in an elastomer gasket. Double glazing shall be installed, with an air space of at least three inches between the two panes of glass. Windows of dome skylights shall be permitted, unless they have a sound transmission class (STC) of at least 30.

6.02(b). The top-floor ceiling construction shall consist of plaster or gypsum board at least 5/8-inch thick supported on resilient clips or channels. A non-hardening caulking compound shall be provided around the entire perimeter of the suspended ceiling.

6.02(c). The floor of the lowest room or area containing the uses to which those insulation requirements apply shall be a concrete slab, or should be similarly sealed otherwise against exterior noise.

6.02(d). Masonry walls, if used, shall be at least equivalent in weight to eight-inch light-weight concrete blocks, at least one surface of which shall be painted or plastered.

6.02(e). The roof deck shall weigh at least twelve pounds per square foot. Wood roof sheathing shall be continuous and at least 3/4-inch thick.

SECTION 7.00. NOISE AND AVIGATION EASEMENT REQUIRED. No building permit shall be issued for development of any new residence or any new land use required to be soundproofed based on the Table of Land Use Compatibility Standards until the owner of the property proposed for development dedicates to the City of Phoenix as owner of Phoenix Sky Harbor International Airport, an avigation easement acknowledging the right of the airport owner and operator to use the airspace above the property for aircraft navigation.

SECTION 8.00. LAND USE COMPATIBILITY STANDARDS. (See Table 7J, Part 150 Study).

SECTION 9.00. SEVERABILITY. This ordinance and its various parts, sections, subsections, paragraphs, sentences, and clauses are hereby declared to be severable. If any portion of the ordinance is adjudged unconstitutional or invalid, it is hereby provided that the remainder of the ordinance shall not be affected thereby. If any portion of the ordinance is adjudged unconstitutional or invalid as applied to a particular property, building, or structure, it is hereby provided that the application of such portion of the ordinance to other property, buildings, or structures shall not be affected thereby.

SUGGESTED FORMAT

NOISE AND AVIGATION EASEMENT

WHEREAS the grantor is the owner in fee of certain parcel(s) of land in the City of _____, State of Arizona;

AND WHEREAS, said parcel(s) of land is located within the vicinity of Phoenix Sky Harbor International Airport, is located within a Noise Overlay Zone as defined by the _____ City Zoning Ordinance, and is subject to forecast 1992 aircraft noise levels in excess of 65 Ldn; and

WHEREAS Grantor proposes to make a use of said land and to newly develop thereon the following: _____ which new use and development require approval by municipal or county authorities subject to the applicable provisions of law; and

WHEREAS Grantor has been advised and is of the opinion that the subject property is located in a noise-impacted area; that these present and future noise impacts might be annoying to users of the land for its stated purpose and might interfere with the unrestricted use and enjoyment of the property in its intended use; that these noise impacts might change over time by virtue of greater numbers of aircraft, louder aircraft, seasonal variations, and time-of-day variations; that changes in airport, aircraft, and air traffic control operating procedures or in airport layout could result in increased noise impacts; and that the grantor's or user's own personal perceptions of the noise exposure could change and that his or her sensitivity to aircraft noise could increase;

KNOW ALL MEN BY THESE PRESENTS:

That for a good and valuable consideration, the receipt of which is hereby acknowledged, that _____ does hereby grant a permanent noise and avigation easement to the City of Phoenix, owner and operator of the Phoenix Sky Harbor International Airport, for the use of "Navigable Airspace" as defined by the Federal Aviation Act of 1958, over all of the following described real estate, to wit:

"Navigable Airspace" means airspace above the minimum altitudes of flight prescribed by regulations issued under the Federal Aviation Act of 1958, Section 101 (24) 49 U.S. Code 1301, and shall include airspace needed to ensure safety in the take-off and landing of aircraft.

To have and to hold said easement forever.

(Witness, signatures, and dates follow in customary local format.)

**SUGGESTED FORMAT
FAIR DISCLOSURE STATEMENT**

The tract of land located at _____, in Phoenix/Tempe, Arizona, situated at _____ which is being purchased from _____ by _____ lies within the noise impacted area of the Phoenix Sky Harbor International Airport, identified by City Ordinance _____.

The purchaser is hereby notified that:

This tract of land lies within Airport Noise Overlay Zone(s) _____ as depicted on the Phoenix/Tempe Airport Noise Overlay Zoning Map and is subject to noise intrusion generated by aircraft utilizing Phoenix Sky Harbor International Airport which may, from time to time, be objectionable and may interfere with and diminish the use of the property for residential purposes, depending on the buyer's sensitivity to aircraft noise. The Phoenix/Tempe Airport Noise Overlay Zoning Ordinance specifies permitted uses to be established within Airport Noise Overlay Zones.

The undersigned purchaser of said tract of land certifies that he (they) has (have) read and do understand the above disclosure statement and do acknowledge the pre-existence of the said airport named above, and the right of said airport to operate with the potential for creating objectionable noise.

Seller

Buyer

Sworn to and Subscribed
before me at:

_____ on _____