Requesting Department:

Development Services



TO: Planning and Zoning Commission

THRU: Brett Burningham, Development Services Director

FROM: Erik Swanson, Planning Administrator

Mallory Ress, Planner I

RE: Public Hearing and Possible Action on Pegasus Airpark PAD

Amendment (Case P21-0100), a request from Sean Lake, Pew and Lake PLC, on behalf of the Pegasus Airpark Flight Association to amend the existing PAD conditions to allow helicopters operations at the airpark, located east of the northeast corner of Empire Blvd and Ellsworth Road.

DATE: November 10, 2021

STAFF RECOMMENDATION

Staff recommends approval of P21-0100 Pegasus Airpark PAD Amendment, subject to the Conditions of Approval included in this report.

PROPOSED MOTION

Move to recommend approval of P21-0100 Pegasus Airpark PAD Amendment, subject to the Conditions of Approval included in this report.

RELEVANT COUNCIL GOALS



Secure Future

SUMMARY

This proposal consists of a request to amend the existing PAD to allow helicopters to operate at the airpark as part of the continued use of the runway and hangars. No other changes are proposed to current airpark operations or to the Pegasus Airpark residential subdivision.

The PAD amendment will amend two existing Conditions of Approval under Ordinance 708-19 to allow rotary aircraft (helicopters) to operate out of Pegasus Airpark while

adhering to all of the same rules as the fixed wing aircraft. All other conditions of approval will remain.

	RY

September 5, 1989: The Town of Queen Creek is incorporated as the subject

property becomes part of the Town.

June 20, 1994: Town Council approves the Special Use Permit SU 07-94

(now called Conditional Use Permit) for the airstrip at the

Pegasus Airpark development, subject to conditions.

May 3, 1995: Town Council approves the Preliminary Plat for Pegasus

Airpark Development, subject to conditions. The Preliminary

Plat consists of 159 lots on 320 acres.

March 18, 1998: Town Council approves an amendment to the Special Use

Permit (SU 01-97) for the Fixed Base Operations which limited the number of aircraft to 225 and allowed for a 100 low lead

aviation fuel tank.

June 6, 2007: Queen Creek Town Council approved Pegasus Airpark,

Phase 5 Amended Plat (SD07-013) which reduced the

number of aviation lots to 82.

October 15, 2008: Queen Creek Town Council denied a request to allow very

light jets and helicopters at Pegasus Airpark (CU08-020).

March 14, 2012: Town Council approved cases CU12-001 and SP12-002,

authorizing the use of very light jets (VLJ's) and other similar aircraft as well as the future installation of a facility for the storage and sale of Jet-A fuel at the Pegasus Airport, with conditions including requiring the Flight Association to complete a noise studies to verify compliance with the Council

approved 65 DNL noise standards.

April 18, 2012: Town Council approved an amendment to CU12-001 and

SP12-002 to allow the operation of very light jets and approval of an additional fuel tank to be used for Jet-A aircraft fuel.

September 4, 2019: Town Council approved a PAD Rezone for approximately

49.44 acres from R1-43/CUP to MU/PAD, replacing the existing CUP with a permanent zoning designation allowing the continued use of the airport runway and hangars at the

airpark.

PROJECT INFORMATION

Project Name:	Pegasus Airpark PAD Amendment
Site Location:	East of the northeast corner of Empire Blvd and
Site Location.	Ellsworth Road
Current Zoning:	Mixed Use (MU)/PAD
Proposed Zoning:	Mixed Use (MU)/PAD
General Plan Designation:	Rural
Surrounding Zoning:	
North	R1-35 (Residential) – Orchard Ranchettes R1-43 (Residential) – Pegasus Residential R1-18, R1-9, R1-7 (Residential) – Jorde Farms South, Vacant
South	RU-43 (County) - Vacant
East	R1-18, R1-5 (Residential) – Jorde Farms South, Vacant
West	R1-35, R1-9 (Residential) – Bellero
Gross Acreage:	49.44 Acres
Use Description:	49.44 Acres

DISCUSSION

The property is located east of the northeast corner of Empire Blvd and Ellsworth Road and is zoned MU/PAD. The Pegasus Airpark development is approximately 320 acres consisting of 186 residential lots, airpark runway and 79 hangers. This proposal consists of a request to amend the PAD to allow rotary aircraft to operate from the airpark. No additional changes are proposed to current airpark operations or to the Pegasus Airpark Development.

Under this PAD Amendment, Conditions of Approval Nos. 2 and 6 of Ordinance No. 708-19 are being amended as follows:

- 2. The total number of planes aircraft allowed on the entire Pegasus Airpark Development shall not exceed 225; this number includes both the residential area and the fixed Base Operatersions(FBO). The maximum quantity of planes aircraft allowed on the FBO is 92 planes. There may be fewer than 92 planes aircraft at the FBO, with a greater number of planes aircraft in the residential area, provided that the combined total does not exceed 225 for the entire Pegasus Airpark Development.
- 6. Aircraft allowed to operate from Pegasus Airpark shall be limited to single pilot, rotary and fixed-wing aircraft powered by piston (both gas and diesel engines), turbine, turbo fan, jet engines, as well as potential future equivalent propulsion technologies (i.e., electric powered, hydrogen, etc.) , or known as single pilot aircraft. Approach speeds shall be less than 121 knots and wings spans shall be

less than 79 feet. Aircraft that are not fully Stage 3 noise compliant as defined by the FAA or that do not comply with the operational limits above related to weight, approach speed and wingspan are prohibited, as are ultra-light aircraft and powered parachutes. Light Sport category aircraft, as defined by the FAA, are not included in the prohibition. The specifications for this airpark shall be published and maintained in the CC and R's for the property, the Flight Association and the FAA airport facilities directory.

Currently only four homeowners in Pegasus own helicopters. These homeowners store and operate their helicopters out of other facilities in the Valley. The applicant has advised that the approval of this PAD amendment will generate minimal helicopter flights per month and most days there will be no helicopter operations.

About the Airpark

While the creation of the airpark was being considered by the Town of Queen Creek, the FAA was also holding hearings and ultimately approved the location for Pegasus in March of 1994 (Airspace case # 93-AWP-208-NRA). Pegasus Airpark was approved as a Visual Flight Rule (VFR) airpark only, with no Instrument Flight Rule (IFR) activity allowed. This is an important distinction since airparks operating with VFR activities have less-intense uses than those operating with IFR activities. Moreover, the airpark adheres to its own Operation and Safety Regulations as well as a myriad set of rules and regulations established by the Federal Aviation Administration.

The Pegasus Airpark runway is used only by Pegasus Airpark residents and their invited guests. The airpark presently has the lowest level of traffic among all East Valley airports as shown in the graphic below:

Airport	Average Flights per Day	
Chandler Municipal Airport	550	
Falcon Field	900	
Gateway Airport	800	
Pegasus Airpark	Less than 10	
Scottsdale Airport	503	
Stellar Airpark	110	
Source: Airnav.com		

The hanger use was allowed pursuant to a Conditional Use Permit that was approved by the Town Council in June of 1994 and amended in March of 1998 and 2012. The current PAD allows a total of 225 planes with a maximum of 92 allowed at the Fixed Based Operations (FBO). This amendment will keep the total allowed number of aircraft, including helicopters, at 225 within the airpark with a maximum of 92 at the FBO.

Noise and Landing/Takeoff Procedures

Operations at Pegasus Airpark must adhere to the FAA mandate for all airparks requiring aircraft noise to be at or below a level of 65 DNL (Day-Night Average). This means that

the average aircraft noise over a day and a night cannot exceed 65 decibels. With an average of less than 10 flights a day, the Airpark is mostly silent of aircraft noise. When an aircraft takes off or lands the decibel level exceeds 65, however this is an acceptable occurrence as the day-in and day-out operation of the airpark is below the FAA mandated level.

As part of the project narrative the Applicant has provided data showing current decibel levels at various points within the Airpark. For example, at the center of the runway during several different takeoffs of a Mooney M20 piston powered fixed-wing aircraft the decibel reading varied from 72db to 84db. The applicant has indicated that the addition of rotary aircraft at the Airpark will not significantly change these values. To support this information the Applicant has also provided decibel readings for helicopter operations at Chandler Airport and Falcon Field. For example, at a location approximately 1350ft from the takeoff location of three (3) different Robinson R22 helicopters the decibel level varied from 82db to 84db. It is important to note that this distance is just over one-half the distance that the proposed takeoff location is from the adjacent Bellero subdivision and the future Jorde Farms residential subdivision. Additionally, the Applicant has provided the decibel level at takeoff for the models of helicopters that are currently owned by homeowners with the Airpark. These decibel levels vary from 88db to 92db. In short, helicopter noise only exceeds the 65 decibel level at take-off and landing, just as airplanes do. For more information please see Exhibit 3.

Pegasus Airpark follows the FAA convention of patterns for takeoff and landings as specified in the FAA Regulations/Airman's Information Manual. Accordingly, upon approach to the Airpark, helicopter pilots will be directed to fly over Empire/Hunt Highway to the Crismon Road Pegasus Airpark entrance, then turn north and proceed to the center of the runway for landing. This approach route stays over existing roadways and enters the airpark over the hangar operations. Once landed the helicopter will be placed aboard a trolley and towed to the owner's home or hanger. The same procedures will be followed for takeoff, in reverse. These approach and takeoff routes keep air traffic over roadways and follow the pattern of existing, ambient noise.

ANALYSIS

General Plan Review: The current General Plan designation for this property is Rural. The primary use of the surrounding area is residential.

Zoning Review: The zoning designation of the property is Mixed Use PAD (MU/PAD). This designation allows for both airport operations and their associated hangars. The PAD is used as a tool to limit other uses typically allowed with MU zoning.

Planned Area Development (PAD) Overlay Compliance: The purpose of the Planned Area Development Overlay District (PAD) is to provide for the orderly development of land consistent with the Town of Queen Creek General Plan and Zoning Ordinance while permitting flexibility in the design, construction and processing of residential, commercial

and/or industrial developments of a quality which could not be achieved by traditional lot by lot development under conventional zoning concepts. All PAD requirements listed in the Town's Ordinance have been reviewed by staff and determined to be in compliance.

PUBLIC PARTICIPATION

The applicant held one (1) neighborhood meeting on June 30, 2021 with approximately 14 members of the public. The majority of these attendees were residents of Bellero and Pegasus subdivisions. Residents voiced concerns over increase in noise at the airpark. The applicant along with Mr. Nelson Garrison, Pegasus Flight Association, provided information relative to the FAA requirements which regulate noise levels at the airpark. After the neighborhood meeting, Mr. Garrison followed up with several Bellero residents and appointed neighborhood representatives. The applicant has advised that Bellero residents are not opposed to the amendment. Additionally, within the Pegasus community the amendment has been an open item on the agenda at meetings of the Pegasus Flight Association and HOA. The applicant has advised that there is currently no opposition to the amendment from the Pegasus community. Staff has received no additional input.

CONDITIONS OF APPROVAL

- 1. This project shall be developed in accordance with the plans attached to this case and all the provisions of the Zoning Ordinance applicable to this case.
- 2. The total number of aircraft allowed on the entire Pegasus Airpark Development shall not exceed 225; this number includes both the residential area and the fixed Base Operations (FBO). The maximum quantity of aircraft allowed on the FBO is 92. There may be fewer than 92 aircraft at the FBO, with a greater number of aircraft in the residential area, provided that the combined total does not exceed 225 for the entire Pegasus Airpark Development.
- 3. The following commercial uses are prohibited: charter, courier, commercial flight schools, scheduled air service and crop dusting.
- 4. Aircraft noise shall not exceed a level of 65 DNL at any boundary of the site.
- 5. The Town shall have the right to review Airpark operation performance to ensure compliance with these conditions. Review of airpark performance shall include, but not be limited to, review of all FBO and flight association operations, books, accounts, reports, correspondence and audits.
- 6. Aircraft allowed to operate from Pegasus Airpark shall be limited to single pilot, rotary and fixed-wing aircraft powered by piston (both gas and diesel engines), turbine, turbo fan, jet engines, as well as potential future equivalent propulsion technologies (i.e., electric powered, hydrogen, etc.). Approach speeds shall be less than 121 knots and wing spans shall be less than 79 feet. Aircraft that are not fully Stage 3 noise compliant as defined by the FAA or that do not comply with the operational limits above related

to weight, approach speed and wingspan are prohibited, as are ultra-light aircraft and powered parachutes. Light Sport category aircraft, as defined by the FAA, are not included in this prohibition. The specifications for this airpark shall be published and maintained in the CC and R's for the property, the Flight Association and the FAA airport facilities directory.

- 7. The airpark shall be operated solely as a private airpark for use by residents of the Pegasus Airpark Development, members of the flight association and their guests.
- 8. 100 Low Lead and Jet-A aircraft fuel is to be sold only to members of the Flight Association and their authorized parties through the use of a private card-lock system.
- 9. Developer shall be required to meet all applicable local, state and federal regulations relating to fuel storage and dispensing, and upon request will provide a report to the Town that applicable fuel storage facilities are in compliance with those regulations. The reporting mechanism to the Town shall be, at a minimum, a copy of the notice of approval by the appropriate regulatory agency.

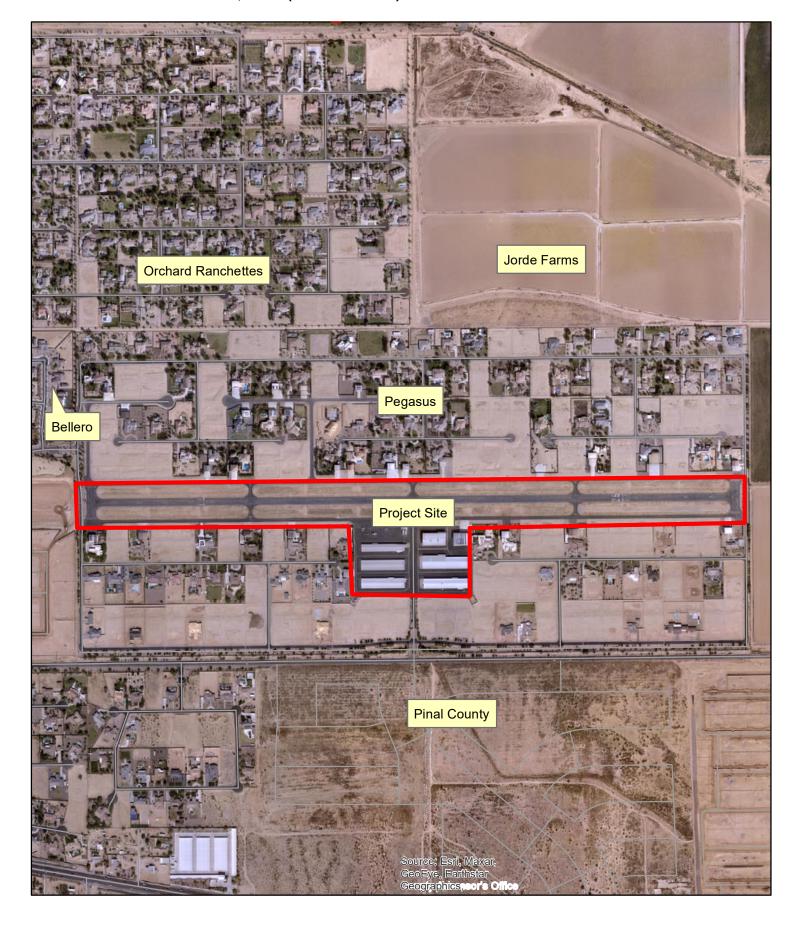
ATTACHMENTS

- 1. Pegasus Airpark Aerial Exhibit
- 2. Pegasus Airpark Zoning Map Exhibit
- 3. Pegasus Airpark PAD Amendment Narrative with Appendix
- 4. "How Loud is a Helicopter"-Executive Flyers article
- 5. Pegasus Airpark Neighborhood Meeting Summary

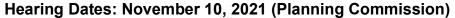
Project Name: Pegasus Airpark PAD Amendment Aerial Exhibit (P21-0100)

Hearing Date: November 10, 2021 (Planning Commission)
December 01, 2021 (Town Council)



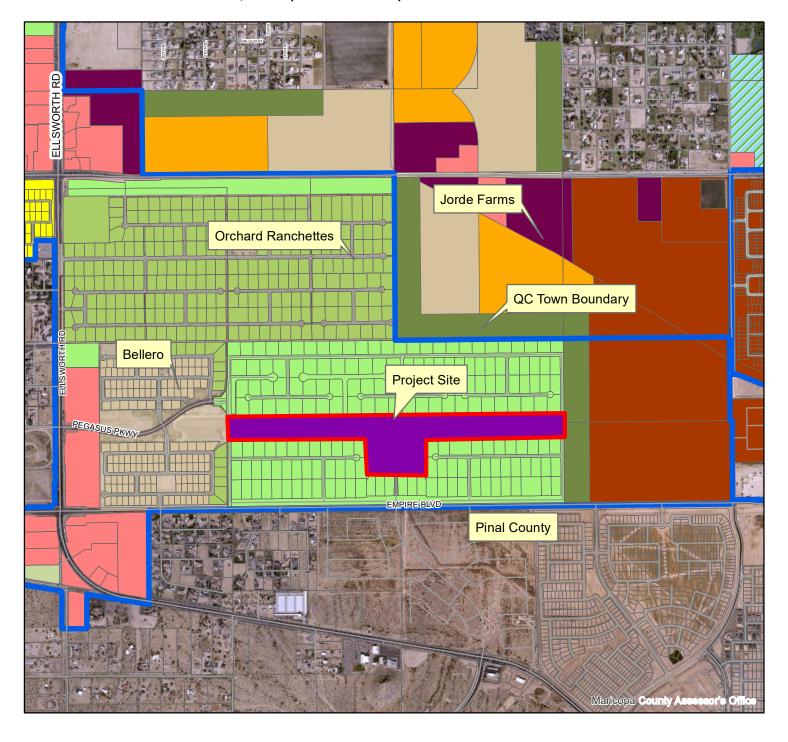


Project Name: Pegasus Airpark PAD Amendment Zoning Exhibit (P21-0100)



December 01, 2021 (Town Council)

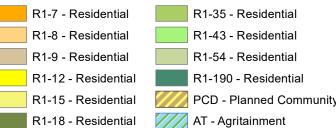




Zoning Districts

C-1 - Commercial
C-2 - Commercial
C-3 - Commercial
DC- Downtown Core
EMP A - Office/Industrial Park
EMP B - General Industrial





Pegasus Airpark

East of the NEC of Ellsworth and Empire Roads PAD Amendment Project Narrative October 18, 2021

1. Introduction

Pew & Lake PLC, on behalf of Pegasus Airpark Flight Association is pleased to submit this project narrative for an amendment to an approved PAD (Ordinance No. 708-19) at the 49.44 acre Pegasus Airpark. The property is located east of the northeast corner of Ellsworth and Empire Road. Pegasus Airpark is known as Maricopa County Assessor parcel number 304-91-474F and is shown in the aerial below.



2. Relationship to Surrounding Properties

As shown on the graphic on the next page, Pegasus Airpark itself is bound on the north by vacant Maricopa County property and the Orchard Ranchettes subdivision, on the south by vacant property and residential homes in Pinal County; on the east by a vacant property that is planned to be developed as the Jorde Farms residential subdivision and on the west by the Bellero subdivision.

	General Plan Designation	Zoning	Existing Use
North	Rural and	R1-35/Maricopa	Orchard
	Neighborhood	County RU-43	Ranchettes/Jorde
			Farms Vacant
South	Rural	CR-1A and R-7	Vacant/Residential
		Pinal County	
East	Neighborhood	R1-5 and R1-18 PAD	Jorde Farms (under
			Development)
West	Neighborhood	R1-9	Bellero
Project Site	Rural	Mixed Use PAD	Private Airpark

The property that is the subject of our request is contained within the Pegasus Airpark as a whole, the boundaries of which are shown below. Also as shown, the nearest developed residential properties that are not included in the Pegasus Airpark boundaries are over 1,000 feet away from the runway, and over 450 feet from the boundary of this request.



Like the Bellero community to the west of the airpark, it is expected that any future residential homebuyers east of the Airpark will be notified of the Airpark and the potential for aircraft and helicopter noise in this area. It is expected that any future homebuyers will

be provided written notice of the airpark, and a sign will be posted in the sales office for the proposed residential lots. It is further anticipated that an Avigation Easement will be recorded at the time of development of the Jorde Farms property to the east, and that noise mitigation measures will be incorporated into the design and construction of the proposed homes. These requirements are typical of residential development in the vicinity of an existing airport.

3. Request

Our requests to the Town of Queen Creek is:

Amending Conditions of Approval No. 2 and 6 of Ordinance No. 708-19 to allow rotary aircraft (helicopters) to operate out of Pegasus Airpark while adhering to all of the same rules as fixed wing aircraft.

Our request is to amend the conditions as follows:

- 2. The total number of planes aircraft allowed on the entire Pegasus Airpark Development shall not exceed 225; this number includes both the residential area and the Fixed Base Operatorsions(FBO). The maximum quantity of planes aircraft allowed on the FBO is 92 planes. There may be fewer than 92 planes aircraft at the FBO, with a greater number of aircraft planes in the residential area, provided that the combined total does not exceed 225 for the entire Pegasus Airpark Development.
- 6. Aircraft allowed to operate from Pegasus Airpark shall be limited to single pilot, rotary and fixed-wing aircraft powered by piston (both gas and diesel engines), turbine, turbo fan, jet engines, as well as potential future equivalent propulsion technologies (i.e., electric powered, hydrogen, etc.) , or known as single pilot aircraft. Approach speeds shall be less than 121 knots and wing spans shall be less than 79 feet. Aircraft that are not fully Stage 3 noise compliant as defined by the FAA or that do not comply with the operational limits above related to weight, approach speed and wingspan are prohibited, as are ultra-light aircraft and powered parachutes. Light Sport category aircraft, as defined by the FAA, are not included in this prohibition. The specifications for this airpark shall be published and maintained in the CC and R's for the property, the Flight Association and the FAA airport facilities directory.

All other conditions of approval will remain intact.

4. About Pegasus Airpark

Pegasus Airpark was created in 1994 when the Town of Queen Creek approved a Master Plan and Special Use Permit for the Airpark community. It is important to distinguish the difference between an airpark, and an airport. As an airpark, Pegasus contains homesites immediately adjacent to the runway, and the rules for its operations consider the peaceful existence of the residents within those homes. An airport, by contrast, has no residential component, and is typically concerned with residential noise only to the extent required by the FAA or other municipal authorities.

The design and configuration of Pegasus Airpark was inspired by Skyranch Airpark in Carefree and Stellar Airpark in Chandler. Operational details from the Carefree Airpark were copied and implemented at Pegasus Airpark since those details had been arrived at after much consideration was given to aircraft noise and sensitivity to surrounding neighborhoods. Many of the Conditions of Approval that govern the current operation of the Pegasus Airpark runway were developed and implemented using Carefree Skyranch as a model. These Conditions include: operation as a private airpark with no services available to pilots from other airports, a prohibition on restaurants, flight training, aircraft sales, and rotating beacons. In order to assuage similar concerns about aircraft noise, The Town of Queen Creek decided that the runway could be allowed at Pegasus through the Special Use Permit development tool. A Special Use Permit was granted in 1994 by the Town of Queen Creek.

While the creation of the airpark was being considered by the Town of Queen Creek, the FAA was also holding hearings and ultimately approved the location for Pegasus in March of 1994 (Airspace case # 93-AWP-208-NRA). Pegasus Airpark was approved as a Visual Flight Rule (VFR) airpark only, with no Instrument Flight Rule (IFR) activity allowed. This is an important distinction since airparks operating with VFR activities have less-intense uses than those operating with IFR activities. Pegasus was granted a rezoning in 2019 which allowed for the permanent use of the property as a "by right" use, rather than operating subject to a Special Use Permit.

The Pegasus Airpark runway is used only by Pegasus Airpark residents and their invited guests. Consequently, it presently has the lowest level of traffic among all East Valley airports as shown in the graphic below. It is anticipated that with the addition of helicopters at Pegasus, there will be only a marginal increase in this air traffic. There are currently only four homeowners in Pegasus that own helicopters, and they will likely only

operate their aircraft several times during the month.

Airport	Average Flights per Day	
Chandler Municipal Airport	550	
Falcon Field	900	
Gateway Airport	800	
Scottsdale Airport	503	
Stellar Airpark	110	
Pegasus Airpark	Less than 10	
Source: Airnav.com		

5. Zoning History

September 4, 2019 (P19-0074): Queen Creek Town Council approve Ordinance No. 708-19 rezoning the runway and related hangers from R1-43 (Rural Residential) to MU/PAD (Mixed Use with a Planned Area Development). Many of the prior conditions of approval from the Conditional Use Permit were removed with the approval of the permanent zoning. Notably, CUP Condition of Approval #22, that required a noise study to be produced every five years was removed. As stated in the Town of Queen Creek Staff Report to the Planning & Zoning Commission, dated August 14, 2019, the Condition of Approval was removed, along with others, "to update and replace redundant and no longer necessary conditions of approval that have existed since the inception of the airpark." Moreover, FAA Order 1050.1E does not require noise studies for airports with less than 247 daily flight operations. As shown above, Pegasus has nowhere near the air traffic that would justify a noise study.

April 18, 2012: Queen Creek Town Council approved an amendment to CU12-001 and SP12-002 to allow the operation of very light jets and approval of an additional fuel tank to be used for Jet-A aircraft fuel.

March 14, 2012: Queen Creek Town Council approved cases CU12-001 and SP12-002, authorizing the use of very light jets (VLJ's) and other similar aircraft as well as the future installation of a facility for the storage and sale of Jet-A fuel at the Pegasus Airport, with conditions including requiring the Flight Association to complete a noise study every 5 years to verify compliance with the Council approved 65 DNL noise standards.

October 15, 2008: Queen Creek Town Council denied a request to allow very light jets and helicopters at Pegasus Airpark (CU08-020).

June 6, 2007: Queen Creek Town Council approves Pegasus Airpark, Phase 5

Amended Plat (SD07-013) which reduced the number of aviation lots to 82.

March 18, 1998: Queen Creek Town Council approves an amendment to the Special Use Permit (SU 01-97) for the Fixed Base Operations which limited the number of aircraft to 225 and allowed for a 100 low lead aviation fuel tank.

May 3, 1995: Queen Creek Town Council approves the Preliminary Plat for Pegasus Airpark Development, subject to conditions. The Preliminary Plat consists of 159 lots on 320 acres.

June 20, 1994: Queen Creek Town Council approves the Special Use Permit (now called Conditional Use Permit, SU 07-94) for the airstrip at the Pegasus Airpark development, subject to conditions.

6. <u>Development Plan</u>

The development plan proposed with this request is simple—to allow the continued operation of Pegasus Airpark as it has been operating since 1994, except for the addition of helicopter takeoff and landings. With the approval of this PAD amendment request, it is anticipated that there will be only a few helicopter operations per month—most days there will be no helicopter operations. Currently, only four homeowners in Pegasus own helicopters in addition to their turbine, jet aircraft. While they are able to operate their turbine, jet aircraft at Pegasus, they are required to operate their helicopters out of other facilities in the Valley. This amendment will simply allow them, or their invited guests, to use the Pegasus runway for periodic arrivals and departures.

In addition to the new guidelines covering helicopter operations, the airpark will continue to adhere to its own Operation and Safety Regulations as well as a myriad set of rules and regulations established by the Federal Aviation Administration.

7. Federal Aviation Administration (FAA) 65 DNL Restriction

The FAA has established a rule mandating for all airparks and airports in the United States that aircraft noise shall not exceed a level of 65 DNL (Day-Night Average) at the boundary of the property. This does not mean that aircraft noise can <u>never</u> exceed 65 decibels, rather, it means that the <u>average</u> aircraft noise over a day and night, will not exceed 65 decibels. In the case of Pegasus Airpark, with less than 10 flights per day, the Airpark is mostly silent (except for ambient noise). When an aircraft makes a landing or

takeoff, the noise is slightly higher than 65 decibels, but the day-in and day-out operation of the Airpark is extremely quiet.

As shown on **Appendix A** to this narrative showing baseline noise readings, the ambient noise at midfield of the runway ranges between 54 and 60 decibels and rises to 65 decibels at the perimeter of the property, where there are roadways. The ambient noise levels at the Pegasus property boundaries are shown below.

Location	Distance from Midfield	Ambient dB Level
Center of Runway	0′	54-60
North Boundary of runway	197′	50-55
South Entrance to Pegasus Airpark	1,234′	60-65
Western Gate to Pegasus	2,590′	60-65
Eastern Boundary of Runway	2,590′	60-65

After careful evaluation of the airpark with noise readings taken from various locations in and around Pegasus, the following observations were made:

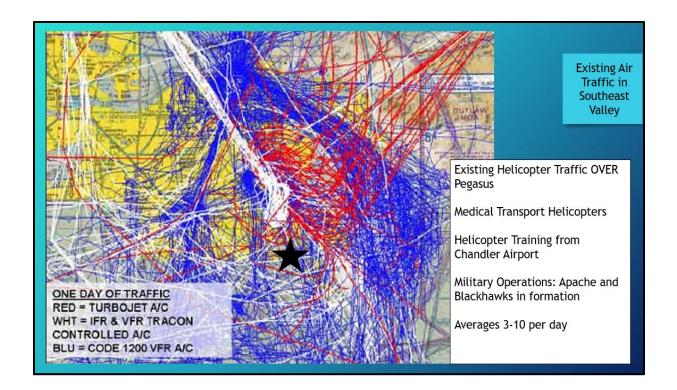
- 1) Ambient noise level at the center of the runway is between 54 and 60 db.
- 2) Small aircraft takeoffs increase noise level at the center of the runway between 18 and 31 db.
- 3) Helicopters flying overhead increase the noise level at the center of the runway by 28 db.
- 4) Ambient Noise level at the perimeter of the property is between 60 and 65 db, without traffic.
- 5) Noise levels at the perimeter of the property increase 16 to 18 db with an aircraft taking off

- 6) Ellsworth & Empire Intersection operates at 72- 94 db depending on amount of traffic.
- 7) None of the aircraft noise measurements taken were higher than the existing noise levels at Ellsworth & Empire.
- 8) Traffic at Ellsworth & Empire is greater than midfield at the runway with a helicopter overhead.
- 9) Ellsworth & Empire noise level is equal to midfield with a military helicopter at 500' AGL.

Noise levels were measured at the Ellsworth and Empire arterial intersection to provide context to the decibel levels taken at the airpark and to demonstrate that noise levels generated by everyday traffic at a busy intersection is greater than what will be anticipated by the addition of roughly ten helicopter flights per month at Pegasus.

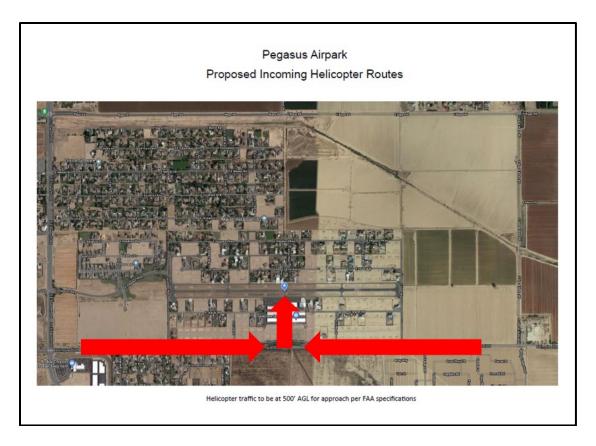
8. Existing Helicopter Traffic

It is important to note that while there are currently no helicopter takeoff and landings at Pegasus Airpark, there is significant, existing helicopter air traffic **over** Pegasus, and a significant amount of air travel in the airspace over Pegasus and the southeast valley. The graphic on the next page shows Pegasus Airpark as a black star, and the various colored lines over the star indicate the typical, existing air traffic over Queen Creek and the East Valley. As noted in the white box, this air traffic includes medical transport helicopters, helicopter trainees from Chandler Municipal Airport, Military helicopters that often fly in groups. The addition of four helicopters at Pegasus, with a projected increase of 10 flights per month, would have an imperceptible impact of the existing air traffic over Queen Creek.



9. Proposed Landing and Takeoff Patterns

Pegasus Airpark follows the FAA convention of patterns for takeoff and landings as specified in the FAA Federal Aviation Regulations/Airman's Information Manual. Accordingly, upon approach to the Airpark, helicopter pilots will be directed to fly over Empire/Hunt Highway to the Crismon Road Pegasus Airpark entrance, then turn north and proceed to the center of the runway for landing. By staying over existing roadways and entering the airpark over the hangar operations, there will be insignificant noise impact to neighbors and residents of the airpark. Once landed, the helicopters will be placed aboard a trolley and towed to the owner's home or hangar. To depart Pegasus, these same procedures will be followed, in reverse. These approach and takeoff routes are designed to keep air traffic over roadways and follow the pattern of existing, ambient noise.



^{*-} AGL is "Above Ground Level" and refers to the altitude at which the aircraft will be flying overhead.

According to the Helicopter Association International (HAI), the sound of a helicopter flying at 500 feet is about 87 decibels, which is comparable to the intersection of Ellsworth & Empire, with traffic flowing in both directions. Additionally, the HAI observed that there appears to be a correlation between the weight of the helicopter and its noise level. This is confirmed by the weight and takeoff noise of the helicopter model currently owned by residents of Pegasus as shown on the next page:

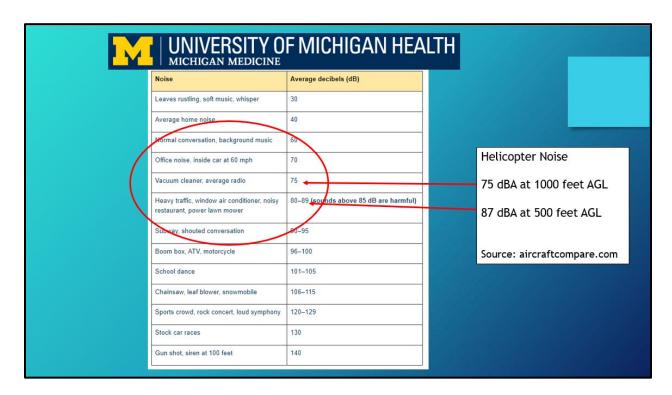
Make	Weight	dB at Takeoff
Kaman K-Max	5,146 lbs.	92
Bell 505	2,180 lbs.	91
Robinson R-66	1,281 lbs.	88

Finally, the FAA does not require a noise study for airports whose forecast helicopter operations do not exceed 10 annual daily operations with hover times not exceeding two minutes. As previously noted, it is anticipated that there will only be a few helicopter flights per month at Pegasus, if the requested amendment is approved.

10. Queen Creek Noise Ordinance

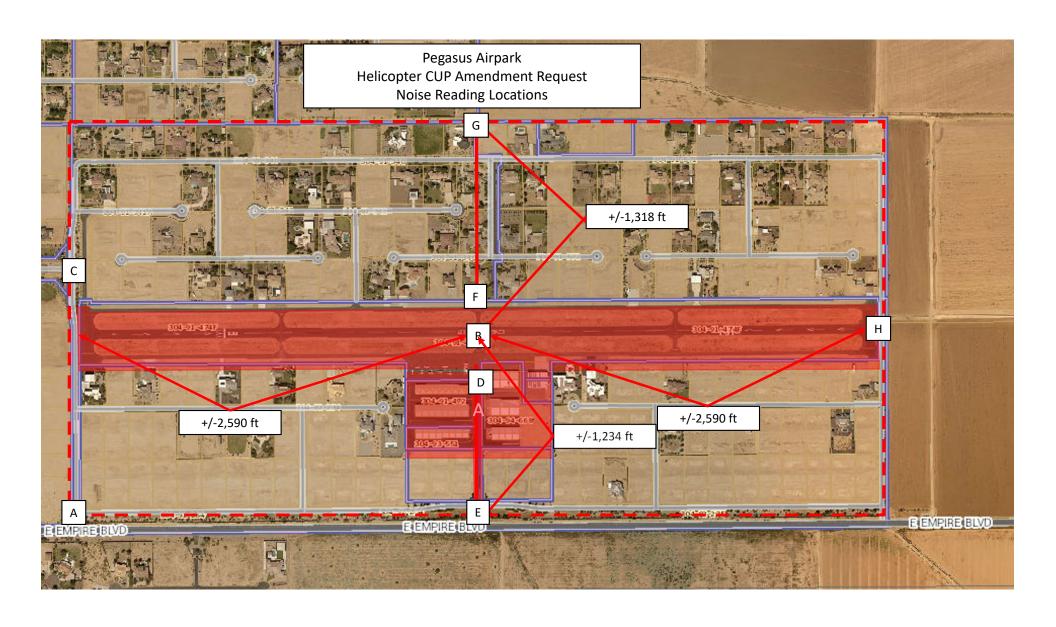
The Town of Queen Creek has adopted a Noise Ordinance in order to maintain a high quality of life for its residents. Noise restrictions are in place from 10:00 p.m. to 6:00 a.m., and they restrict the emission of excessive noises from real or personal property, regardless of the type of instrument or device making the noise. "Excessive" is defined as "being heard by a person, who has a normal hearing ability, for a distance of two-hundred feet or more from its source. Exempted from this ordinance, are aircraft that are operating "in conformity with or pursuant to federal law, federal air regulations, or air traffic control instructions issued pursuant to or within duly adopted federal air regulations." The correct application of the noise ordinance to Pegasus would be to allow Pegasus to continue to operate within the 65 DNL established by the FAA.

While the 65 DNL seems rather abstract, it is helpful to place that noise level in context with everyday noises. The University of Michigan School of Medicine created a noise scale, that provides context to everyday noises. Shown on the next page is a graphic demonstrating that a helicopter operating at 1000 feet above ground level generates noise that is equivalent to a vacuum cleaner, and a helicopter operating at 500 feet above ground level (approach height) generates noise equivalent to a window air conditioner or lawn mower.



11.Conclusion

Pegasus Airpark is a valuable asset to the Town of Queen Creek. It allows high net worth individuals who prefer an agrarian lifestyle to continue to live in Queen Creek while indulging in their aviation pursuits. Pegasus has operated for over 20 years without incident or complaint. Allowing helicopters at the airpark will not measurably increase the noise level at Pegasus Airpark. The plan for approaches and departures will allow the Airpark to continue operating in a safe and respectful manner that meets the Town's noise ordinance and FAA mandates. The applicant and property owner respectfully request approval of this proposed PAD Amendment to allow the continued operation of this successful airpark in Queen Creek.



Appendix A: Pegasus Airpark Noise Readings; September 22 to October 6, 2021

Date	Time	Location	Map Key	Event	db
22-Sep	7:05 AM	Ellsworth & Empire Intersection	Α	Traffic Stopped	72-75
		Ellsworth & Empire Intersection	Α	Traffic Flowing	80-92
	7:10 AM	Center of Runway	В	No Air Traffic	54-60
	8:10 AM	Center of Runway	В	Maule 235 MP Takeoff	82
	10:24 AM	Center of Runway	В	Mooney M20 Takeoff	81.4
	10:35 AM	Center of Runway	В	Mooney M20R Takeoff	82.6
23-Sep	6:39 AM	Ellsworth & Empire Intersection	А	Traffic Stopped	80-82
	6:47 AM	Entry Gate to Pegasus	С	Traffic Flowing	83-85
	6:47 AM	Center of Runway	В	2 Husky Aircraft Takeoff	78
	7:52 AM	Center of Runway	В	No Air Traffic	50-52
	8:45 AM	Center of Runway	В	Mooney M20 Takeoff	80
24-Sep	6:55 AM	Ellsworth & Empire Intersection	Α	Traffic Stopped	78-82
	6:55 AM	Ellsworth & Empire Intersection	Α	Traffic Flowing	85-92
	7:40 AM	Center of Runway	В	Mooney M20 Takeoff	78
	7:47 AM	Hangars	D	Semi Truck delivery of Equipment	87-96
	8:23 AM	Center of Runway	В	Cirrus SR22 Takeoff	84
	9:15 AM	Center of Runway	В	Mooney M20 Takeoff	80
	9:30 AM	Center of Runway	В	Landscapers- mow, trim, leaf blow	91
	11:20 AM	Center of Runway	В	Cessna/ Columbia taxi	80
	11:25 AM	Center of Runway	В	Mooney M20 Landing/taxi	72
	11:27 AM	Center of Runway	В	Piper Club Landing/taxi	64
	11:30 AM	Center of Runway	В	Cessna/Columbia Takeoff	87
	11:59 AM	Center of Runway	В	Cessna/Columbia Takeoff	86
25-Sep	7:39 AM	Center of Runway	В	Super Cub Takeoff	80
	8:05 AM	Center of Runway	В	Husky Takeoff	78
	8:22 AM	Center of Runway	В	Cessna 210 Takeoff	84.2
	8:47 AM	Center of Runway	В	Beech A36 Takeoff	87
	12:27 PM	Center of Runway	В	Cirrus SR22 Takeoff	83.7
27-Sep	6:56 AM	Center of Runway	В	Super Cub Takeoff	80

Appendix A: Pegasus Airpark Noise Readings; September 22 to October 6, 2021

	7:23 AM	Center of Runway	В	Husky Takeoff	78
	8:25 AM	Center of Runway	В	Husky Takeoff	80
	11:45 AM	Center of Runway	В	Cessna 340 Takeoff	91
	12:15 PM	Center of Runway	В	Cessna 180 Takeoff	83
	3:25 AM	Center of Runway	В	Mooney M20 Takeoff	84
28-Sep	7:17 AM	Ellsworth & Empire Intersection	Α	Traffic Flowing	93
	7:25 AM	Center of Runway	В	N355CF Helicopter Overhead	78
	8:29 AM	Center of Runway	В	Cessna 170 Takeoff	74
	8:52 AM	Center of Runway	В	N355CF Helicopter Overhead	78
	9:03 AM	Center of Runway	В	Cessna 180 Takeoff	85
	11:11 AM	Ellsworth & Empire Intersection	Α	Traffic Flowing	91
29-Sep	6:51 AM	Ellsworth & Empire Intersection	Α	Traffic Flowing	94
•	6:59 AM	Center of Runway	В	Piper Cherokee Takeoff	77
	8:11 AM	Center of Runway	В	Cessna 182 Takeoff	79
	9:15 AM	Center of Runway	В	Military C-130 Flyover (500 AGL)	91
	10:09 AM	Center of Runway	В	Mooney M20 Takeoff	81
30-Sep	7:02 AM	Center of Runway	В	Beech Debonair Takeoff	83
	7:12 AM	Center of Runway	В	Piper Cub Takeoff	77
	10:03 AM	Center of Runway	В	Beech Bonanza Takeoff	87
	11:58 PM	Center of Runway	В	Cessna 340 Takeoff	83
	3:55 PM	Center of Runway	В	544AM Helicopter Overhead (1000' AGL)	72
4-Oct	6:45 AM	South Entrance to Pegasus	E	No traffic	60-64
		South Entrance to Pegasus	E	With Traffic	76-89
		South Entrance to Pegasus	Е	With Aircraft Takeoff	76-89
	7:22 AM	North of Midfield	F	No Traffic	50-55
		North of Midfield	F	With Traffic	70
		North of Midfield	F	Maule 235 Takeoff	68
4-Oct	12:45 to 1:00 PM	South Entrance to Pegasus	E	No traffic	60-65
		South Entrance to Pegasus		With Traffic	78-84
		East Boundary of Runway	Н	No Traffic	60-65

Appendix A: Pegasus Airpark Noise Readings; September 22 to October 6, 2021

		North Boundary of Runway	F	No Traffic	60-65
		North Boundary of Runway	F	With Traffic	80
		West Boundary at Pegasus Gate	С	No Traffic	60-65
		West Boundary at Pegasus Gate	С	With Traffic	79
Important C	bservations:				
1) Ellsworth	n & Empire Interse	ction operates at 72- 94 db depending on	amount of	traffic.	
		center of the runway is between 50 and 6			
3) Small airc	raft takeoffs incre	ase noise level at midfield between 18 and	d 31 db.		
4) Ambient	Noise level at the p	perimeter of the property is between 50 a	nd 60 db, v	vithout traffic.	
5) Noise lev	els at the boundar	ies of the property increase 16 to 18 db w	ith an aircra	aft taking off	
6) Helicopte	rs flying overhead	increase the noise level midfield by 28 db			
7) None of	the aircraft noise r	neasurements were higher than the existi	ng noise lev	vels at Ellsworth & Empire.	
9) Ellsworth	& Empire noise le	vel is equal to midfield with a military heli	copter at 5	00' AGL.	
Important r	eminder: The Que	en Creek Noise Ordinance, which does no	t specify de	cibel levels, exempts airports operating	
within Fede	ral Requirments.				
		Noise Readings from other Eas	t Valley He	licopter Facilities	
Date	Time	Quantum Helicopters/Chandler Airport		Event	db
Date	Tille	Quantum Hencopters/ Chandler Airport		Event	ub
6-Oct	1:15 to 1:45 PM	1/4 mile from helipad		Ambient Noise	67-72
6-Oct	1:15 to 1:45 PM	1/4 mile from helipad		five (5) helicopters idling	78
6-Oct	1:15 to 1:45 PM	1/4 mile from helipad		three (3) Robinson R22 helicopters takeoff	82-84
6-Oct	1:15 to 1:45 PM	50' from helipad		three (3) R22 helicopters taxi at 10' AGL	92
Date	Time	KMB Helicopters; Falcon Field		Event	db
6-Oct	2:15 PM	Hermosa Vista and Greenfield Road*		Ambient Noise	82-87
6-Oct	2:15 PM	Hermosa Vista and Greenfield Road*		Single helicopter Overhead	89-91
*-Immediat	ely adjacent to hel	icopter training facility			

AIRCRAFT

How Loud is a Helicopter?

Updated May 21, 2021



According to the Helicopter Association International (HAI), the sound level of a helicopter flying at 500 feet is approximately 87dB. At 1,000 feet, the sound level drops to 79dB.

The difference in sound level may not seem that great, but it is in fact significant, reducing the resultant noise by half its impact. This is because sound levels are measured according to a logarithmic scale.

Helicopter Noise Levels vs. Common Sounds

To get an idea of how loud a helicopter actually is, let's consider the sound level of some common noises you might hear every day.

The lowest sound level you can hear is breathing at around 10 dB. A whisper or rustling of leaves registers at 20 dB; a conversation at home is approximately 50 dB; a passenger car traveling on the freeway at 50 ft away is 70dB. While these are all quieter than the noise a helicopter makes, the noise the food blender in your home produces is at a very similar level to a helicopter flying overhead at 88 dB.

Interestingly, people rate the sound level of a helicopter higher than it actually is – as much as 10 decibels higher in fact. This is largely due to the unfamiliar and unique sound a helicopter makes thanks to its blade vortex interaction. This noise level is similar to a farm tractor, motorcycle, or power lawnmower.

Comparison of Helicopter Noise Levels

Thanks to the U.S. Department of Transportation who released a document titled "Noise Levels and Flight Profiles of Eight Helicopters", we can see how the noise levels of some of the most common helicopters compare against each other at takeoff, approach, and level flyover.

All readings are a measure of Effective perceived noise in decibels (EPNdB), which is used for aircraft noise certification.

- Aérospatiale SA 330 Puma: Takeoff: 95.4 EPNdB; Approach: 95.6 EPNdB; Level Flyover: 91.4
 EPNdB
- MBB Bo 105: Takeoff: 89.1 EPNdB; Approach: 91.7 EPNdB; Level Flyover: 88.4 EPNdB
- Bell 206L: Takeoff: 85.9 EPNdB; Approach: 90.3 EPNdB; Level Flyover: 85.8 EPNdB

- Sikorsky S-61: Takeoff: 95.9 EPNdB; Approach: 94.0 EPNdB; Level Flyover: 92.6 EPNdB
- Sikorsky S-65: Takeoff: 95.7 EPNdB; Approach: 99.9 EPNdB; Level Flyover: 97.1 EPNdB
- Bell 212: Takeoff: 91.7 EPNdB; Approach: 95.7 EPNdB; Level Flyover: 94.6 EPNdB
- Aérospatiale Gazelle (SA 341G): Takeoff: 92.5 EPNdB; Approach: 89.5 EPNdB; Level Flyover: 86.1 EPNdB

There appears to be a correlation between the weight of the helicopter and its noise level. The Sikorsky S-65, which is the heaviest helicopter on the list at 37,000 pounds is the loudest at takeoff, approach, and level flyover. The Bell 206-L at 4,000 lbs is one of the lightest models and makes the least amount of noise at takeoff and level flyover.

How Loud Is It Inside a Helicopter?

The cabin noise of commercial aircraft today is generally lower than 80dB. However, most helicopters far exceed this limit, reaching levels as high as or even beyond 100 dB. This is particularly true of older production models and when higher power settings are used. Of course, every person inside the helicopter, whether that be the pilot or passengers is expected to wear an aviation headset to protect their hearing.

Sometimes measures are taken to reduce the noise heard inside a helicopter. If we take Marine One, which the president of the USA travels in, soundproofing is used in an attempt to dull the sound as much as possible. While the noise heard inside the helicopter is by no means silent, it is quiet enough for an elevated voice conversation.

Pegasus Airpark PAD Amendment Summary of Neighborhood Meeting June 30, 2021 Queen Creek Community Chamber

The meeting began at 6:05 p.m.

There were 14 neighbors in attendance, as well as the development team and Town Staff. Attendees from the development team included: Vanessa MacDonald, Pew & Lake, PLC; and Nelson Garrison, Pegasus Airpark Flight Association.

Speaking from a PowerPoint (Attached to this summary), Ms. MacDonald discussed the following concepts:

- 1. Project location and distances from runway to surrounding neighborhoods.
- 2. Requests to the Town of Queen Creek
- 3. Explaining the difference between and Airport and Airpark.
- 4. Existing Flights from Pegasus and other valley airports
- 5. Existing air traffic over Pegasus
- 6. Proposed takeoff and landing patterns for helicopters
- 7. Comparisons of helicopter noise and other familiar activities
- 8. Layers of regulation that apply to Pegasus Airpark
- 9. The FAA "Fly Neighborly" program
- 10. Explanation of 65 DNL requirement
- 11. Queen Creek Conditions of Approval
- 12. Helicopter designs intended to reduce noise

After Ms. MacDonald completed her presentation, the neighbors asked questions and provided comments. [NOTE: This document is intended to be a summary of the general concepts discussed at the neighborhood meeting. It is not intended to be a verbatim account of the meeting, and although some of the attendees identified themselves by name, most of the individuals providing comment did not identify themselves and this summary therefore does not attempt to name specific individuals that made comments. Where multiple individuals addressed the same topic, they have been grouped together, and a single response is provided. This is done for brevity and to eliminate redundancies.]

The questions and comments posed by attendees are shown below in bold text, with responses from Ms. MacDonald and Mr. Garrison shown in italics.

Comment: Request for copy of proposed amendment.

Response: This can be provided after the meeting. Mr. Garrison added that they can also provide information regarding existing helicopter traffic over the East Valley.

Comment: I think that helicopter noise generated is well over 100dBA.

Response: Not so. A helicopter operating properly will not impact surrounding neighbors. Helicopters go straight up and will depart over existing roadway. When they land, the runways will be clear; once over airpark the helicopters will descend and will be trolleyed to the designated hangar.

Comment: I'm concerned that this is the first time I am hearing of this.

Response: This is the very beginning of the public process. We submitted our application in May and it is currently under review by Town Planning staff. The next step in the process is to come talk to the neighbors.

Comment: Have all property owners within Pegasus approved of this?

Response: No vote has been taken, however the CC&Rs and the Operational Rules and Regulations do not mention helicopters. Pegasus property owners have been notified starting over one year ago and there have been neighborhood meetings for the Pegasus community. There is no requirement for a vote by the membership in Pegasus to approve of this change.

Comment: Does that mean the vacuum cleaner noise can be heard outside?

Response: No, that slide was just demonstrating what noise levels everyday items make. An aircraft operating at 1000ft will sound like a vacuum cleaner.

Comment: Is there a limit on the number of helicopters?

Response: Only allowed if the owner has property within Pegasus.

Comment: How many helicopters will there be?

Response: Not very many. They will be limited by the expensiveness of the helicopters. While planes are expensive, helicopters are stupid expensive. There are a few (less than 5) individuals within the community that currently own helicopters but cannot operate them from the airpark because of the existing limitation.

Comment: There are cheaply built helicopters

Response: Yes there are, but they are ultra-light aircraft and they are not permitted at Pegasus.

Comment: If there is an aircraft crash who will respond to it?

Response: Town of Queen Creek Fire Department will respond, and there will be an investigation by the NTSB afterward.

Comment: How much time does it take to take off and land?

Response: Helicopters warm up and go in minutes, far less time than a plane

Comment: Bellero residents already hear noise in their homes from Pegasus airpark. This noise is less than living near Mesa-Gateway flight paths.

Response: Turbine and Jet helicopters are actually quieter than piston airplanes, which are allowed at the airpark already.

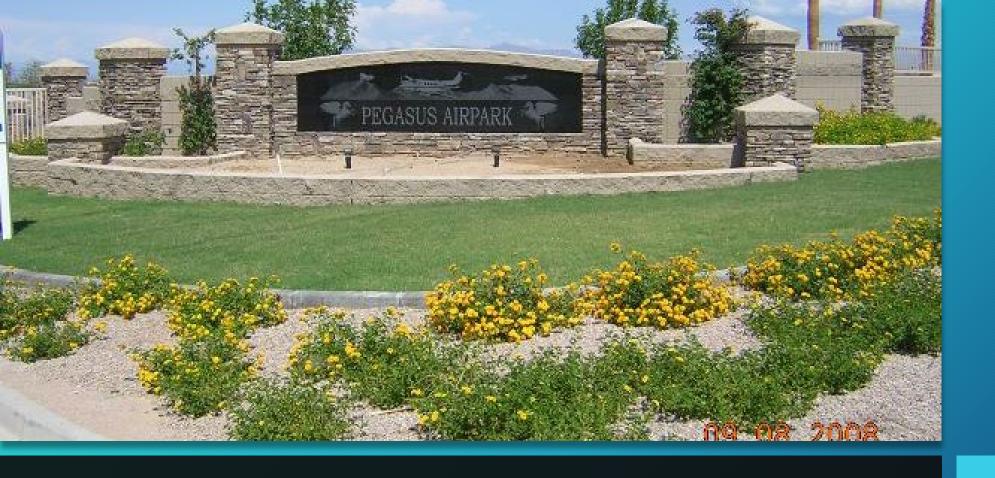
Mr. Garrison then offered to have non-residents come in for a tour of Pegasus. He would like to demonstrate that those who would benefit from the PAD amendment are invested in the community, have stake in the community—and they are the only ones who will be flying from Pegasus. He also thought it would be enlightening for individuals to see and hear the existing air traffic over Pegasus, some of which includes helicopters.

There being no further discussion, the meeting ended at approximately 6:55 p.m. Attached to this summary are: the neighborhood meeting notification letter, notification map, notification mailing list, copies of the signs posted on the property, sign in sheets from the neighborhood meeting and PowerPoint presentation used at the meeting.

FOLLOW UP OUTREACH ACTIVITIES:

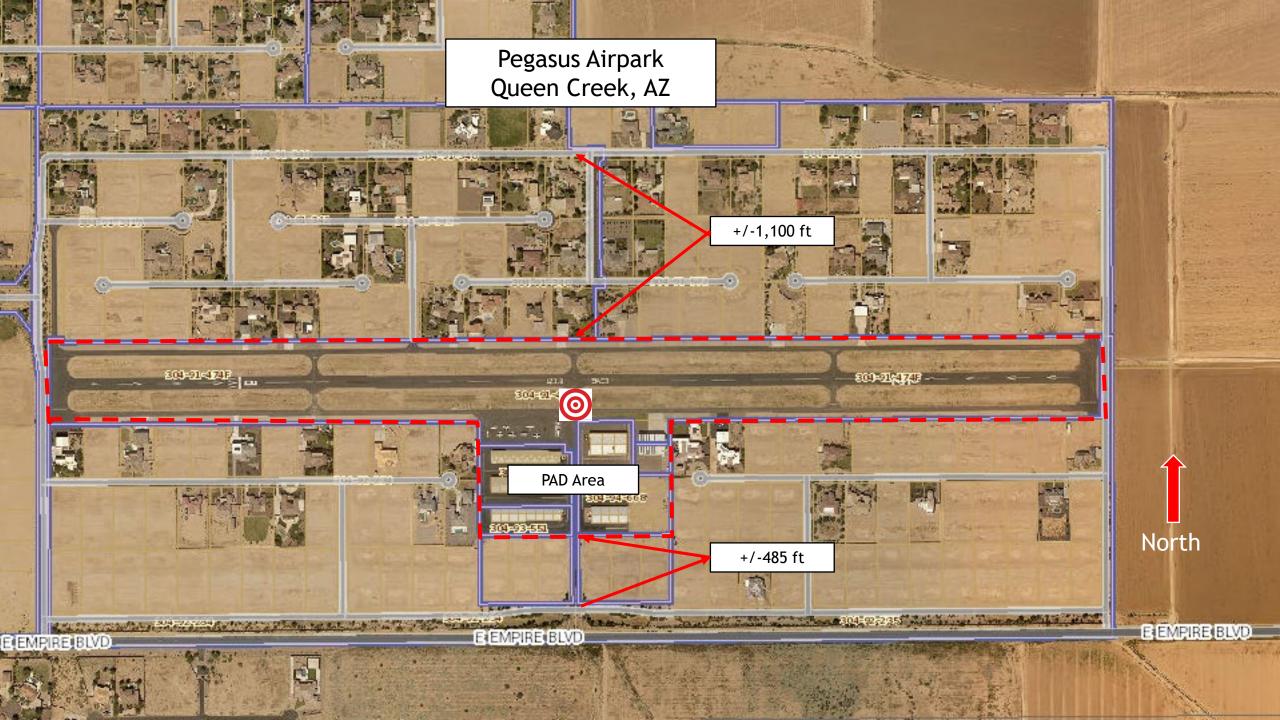
After the neighborhood meetings, Mr. Garrison followed up with the several of the Bellero residents and appointed neighborhood representatives. The consistent message has been that the Bellero residents don't have an issue with the proposed amendment.

There have also been several conversations within the Pegasus community—the proposed amendment has been an open item on the agenda at meetings of the Pegasus Flight Association and HOA. Currently, there is no known opposition to the proposal. The common understanding has been that with the approval of the proposed amendment, existing traffic (operations) won't be affected in any significant way. There will only be a slight increase in air traffic, and the current number of flight operations will not change in any measurable way.



Pegasus Airpark PAD Amendment

P21-0100; Neighborhood Meeting, June 30, 2021



Our Request

- To amend the existing Pegasus Airpark PAD zoning ordinance (708-19) to allow helicopters to operate out of the airpark.
- Currently, homeowners in Pegasus that own helicopters, must operate them out of other airports in the southeast valley.
- With this amendment it is anticipated that there will be no more than 10 helicopter flights a month at Pegasus Airpark.

Airpark vs. Airport

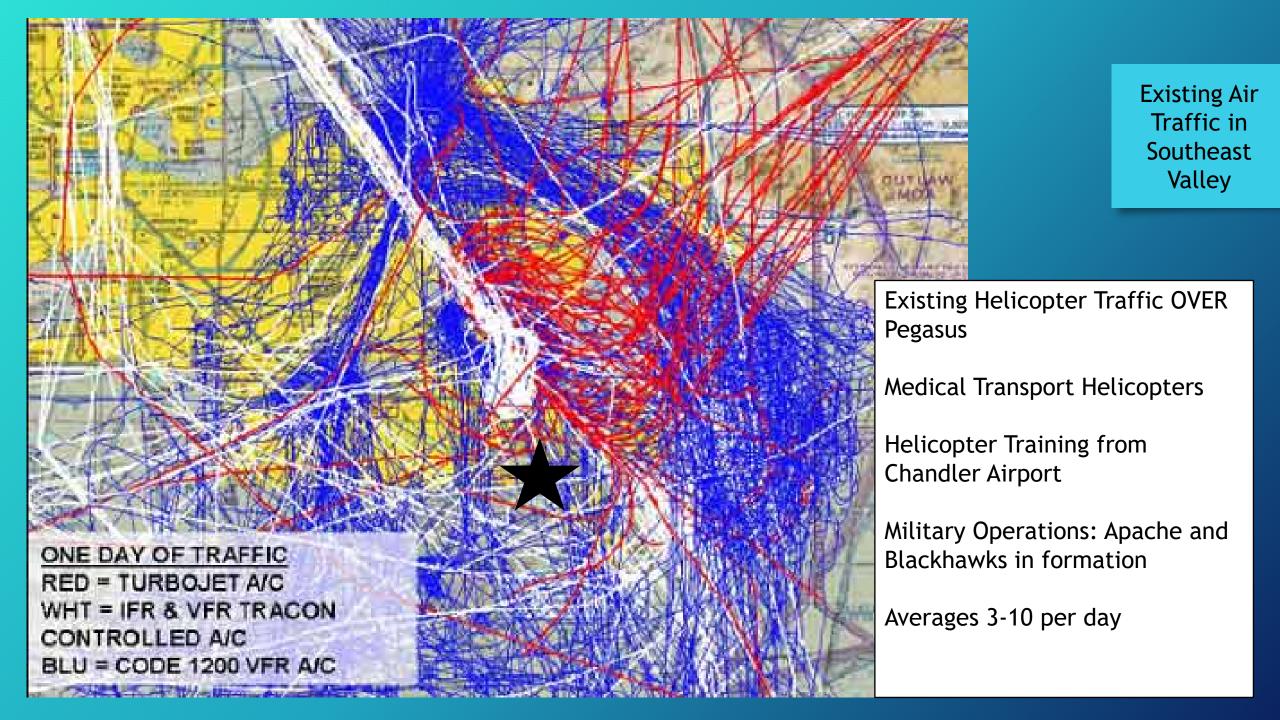
- Airpark is a residential fly-in community.
 - A community designed around a runway
 - 426 in the United States
 - Pegasus, Queen Creek
 - Stellar, Chandler
- Airport has extended facilities
 - Control towers, beacons
 - Terminals
 - International- Sky Harbor
 - Regional- Mesa Gateway
 - Municipal- Chandler Municipal, Scottsdale Airport

Pegasus will never become an airport

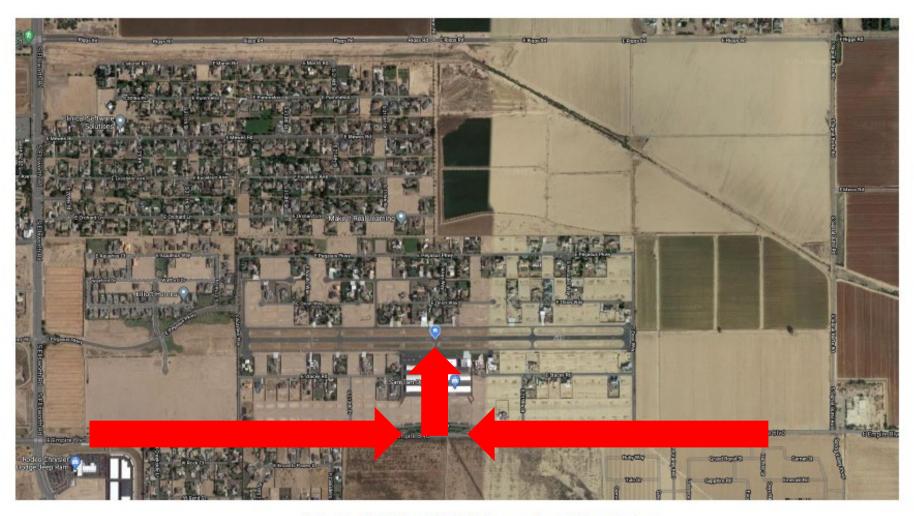
Daily Flight Counts around the Valley

Airport	Average Flights per Day
	FFO
Chandler Municipal Airport	550
Falcon Field	900
Gateway Airport	800
Scottsdale Airport	503
Stellar Airpark	110
Pegasus Airpark (Both airplanes and helicopters)	Less than 20

Source: Airnav.com



Pegasus Airpark Proposed Incoming Helicopter Routes



Helicopter traffic to be at 500' AGL for approach per FAA specifications

UNIVERSITY OF MICHIGAN HEALTH MICHIGAN MEDICINE

Noise	Average decibels (dB)
Leaves rustling, soft music, whisper	30
Average home noise	40
Normal conversation, background music	60
Office noise, inside car at 60 mph	70
Vacuum cleaner, average radio	75
Heavy traffic, window air conditioner, noisy restaurant, power lawn mower	80-89 (sounds above 85 dB are harmful)
Subway, shouted conversation	5 0–95
Boom box, ATV, motorcycle	96–100
School dance	101–105
Chainsaw, leaf blower, snowmobile	106–115
Sports crowd, rock concert, loud symphony	120–129
Stock car races	130
Gun shot, siren at 100 feet	140

Helicopter Noise

75 dBA at 1000 feet AGL

87 dBA at 500 feet AGL

Source: aircraftcompare.com

Layers of Regulation

- The Residential Association (HOA)
- The Flight Association (Aviation Amenities- fuel sales, taxiways, runway)
 - Operation and Safety Regulations
- The Hangar Condominium Association (Hangars and adjacent grounds)
- The Federal Aviation Administration (wheels up to wheels down tracking)
- The Town of Queen Creek

Pegasus Airpark and the FAA "Fly Neighborly"

- Pegasus follows the FAA convention of flight patterns for takeoff and landing as specified in the FAA Federal Aviation Regulations/Airman's Information Manual.
- Pegasus is required to abide by the operational requirements established by the FAA.
- Pegasus voluntarily has a "no touch and go" rule in the Airpark's Operation and Safety Regulation Manual

65 DNL (Day-Night Average Sound Level)

- Aircraft noise shall not exceed a level of 65 DNL at any boundary of the site.
- This is an FAA-mandated limit on aircraft noise.
- Most land uses are considered to be compatible with airport noise that doesn't exceed 65 DNL.
- This limit is met by all airparks and airports in the U.S.

Queen Creek Zoning Conditions of Approval that will Remain in Place

- Limits total number of aircraft at the Flight Base Operation (FBO) to 92.
- Limitations on approach speeds (121 knots) and wing spans (79 feet).
- Commercial uses are prohibited: charter, courier, commercial flight schools, scheduled air service and crop dusting.
- Aircraft noise shall not exceed 65 DNL at the boundary of the site.
- Use of the park is limited to residents, members of the flight association and their guests.
- Regulations regulating fuel sales, storage and dispensing.

New technologies will decrease Helicopter Noise



Electric Helicopters



Changes in Blade Design