



Department of Transportation and Communications
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

Advisory Circular

AC 139 – 06 -A

LAND USE AT OR NEAR THE AIRPORTS

September 2012

"Revving Up. Soaring High"

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Advisory Circulars (AC) are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means, of complying with regulatory requirements, or to explain certain regulatory requirements by providing interpretative and explanatory materials.

CAAP will generally accept that when the provisions of an Advisory Circular have been met, compliance with the relevant regulatory obligations has been satisfied.

Where an AC is referred to in a "Note" within regulatory documentation, the AC remains as guidance material.

ACs should always be read in conjunction with the referenced regulations.


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CONTENTS

1.	References	3
2.	Purpose of this Advisory Circular	3
3.	Status of this Advisory Circular	3
4.	Acronyms	3
5.	Background	4
6.	Types of Aerodromes and Required Standards	5
7.	Obstacle Limitation Surfaces	5
8.	Wildlife Hazard Management	6
9.	Refuse dump or landfills	7
10.	Water	7
11.	Building Codes	8
12.	Notice of Intention to Construct, Alter, Activate, Or Deactivate an Aerodrome	8
13.	Objects and Activities Affecting Navigable Airspace	8
14.	Noise Issues	8
15.	Local Authority Zoning	8
16.	Official Map Regulations	9
17.	Infrastructure Extensions	9
18.	Growth Policies	9
19.	Negotiation/Mediation	9
20.	Public Education and Awareness Programs	9
21.	Information Exchange	9
22.	Conclusion	10
23.	CAAP contact Information	10

1. REFERENCES

1.1 This document may refer to portions of the following:

- Civil Aviation Authority Act of 2008, Republic Act 9497
- CAAP Manual of Standards for Aerodromes
- CAAP Advisory Circular AC 139-05-A-Establishment of Wildlife Hazard Management at Airports by Aerodrome Operators
- International Civil Aviation Organization (ICAO) Doc. 9184 AN/902 Airport Planning Manual Part 2 – Land-use and Environmental Control, and Doc 9137-AN/901 Part 3 Airport Services Manual- Bird Control Reduction

2. PURPOSE OF THIS ADVISORY CIRCULAR

2.1 The purpose of this AC is to provide aerodrome operators and the public with guidance on how to resolve issues in relation to land use near the aerodromes.

2.2 To provide aerodrome operators mechanism to comply with CAAP requirements to monitor and review obstacles in the vicinity of the aerodrome necessary in the safe operation of aircraft.

2.3 This AC is aimed at a variety of persons who have an interest in the use of land at or near the airport such as:

- operators of certified aerodrome;
- operators of registered aerodromes;
- operators of aerodromes for permit-to-operate
- persons responsible in the planning/zoning of land within the vicinity of the aerodromes ;
- land developers;
- technical specialists employed to carry out safety assessments of aerodromes ; and
- Aerodrome safety and reporting officers.

3. STATUS OF THIS AC

3.1 This is the first Advisory Circular (AC) to be written on land use at or near the airports.

4. ACRONYMS

AC	Advisory Circular
AIP	Aeronautical Information Publication
CAR	Civil Aviation Regulations
FAA	United States Federal Aviation Administration
ICAO	International Civil Aviation Organization

MOS	CAAP Manual of Standards – Aerodromes
MTOW	Maximum Takeoff Weight
NOTAM	Notice to Airmen
OLS	Obstacle Limitation Surfaces

5. BACKGROUND

- 5.1 Aviation is important to the pursuit of economic progress of the Philippines and one of the challenges posed to such progress is how to strike a balance between two conflicting goals: aviation safety and land utilization within the periphery of an aerodrome. The Civil Aviation Authority of the Philippines (CAAP) oversees both private and public-used aerodromes. CAAP has an ownership interest in a great percentage of aerodromes and air navigation facilities in the Philippines and therefore has an interest in the maintenance of a healthy aviation system. In playing the role of both regulatory authority and service providers, CAAP is obligated to ensure aerodrome safety which is a vital component in aviation safety.
- 5.2 Providing adequate suitable facilities and maintaining a safe operational environment for aircraft activities promotes aerodrome safety. By complying with the prescribed standards and procedures and taking a pro-active safety management system approach, aerodrome operators can demonstrate that they have discharged their safety obligations to the regulatory authority and to their clients who, ultimately, are the traveling public.
- 5.3 The environment at and surrounding an airport has unique characteristics that impact on land use. Specific requirements for the operation of aircraft, airport design and airspace management are covered in the Civil Aviation Act of 2008 and corresponding Civil Aviation Regulations (CAR). The regulatory oversight of these requirements is undertaken by the Director General of the Civil Aviation Authority of the Philippines (CAAP) through the Flight Standard Inspectorate Service (FSIS) and the Aerodrome & Air Navigation Safety Oversight Office (AANSOO).
- 5.4 The Philippines is a signatory to the Convention on International Civil Aviation (the Chicago Convention) which is a set of international requirements for civil aviation coordinated through the International Civil Aviation Organization (ICAO). As all member states of ICAO, the Philippines has adopted the ICAO standards and recommended practices as the basis for the Philippine Civil Aviation Regulations (CARs).
- 5.5 Aerodrome operators in the Philippines should monitor and review land use activities around their aerodrome to ensure the safe operation of aircraft and protection of airspace. Those persons making changes to land use must ensure that they comply with any applicable CARs, local authority planning requirements and work with aerodrome operators in land use changes. The following provides guidance for those persons proposing land use changes around aerodromes and identifies specific points to be taken into account.

6. Types of Aerodromes and Required Standard

- 6.1 The Manual of Standards for Aerodromes (MOS) hereafter referred to as the MOS, is made pursuant to Civil Aviation Regulations governing Aerodromes (CAR-Aerodromes) formerly known as Administrative Order No.139 (AO 139). CAR-Aerodromes sets out the regulatory regime for aerodrome operators at aerodromes used by aeroplanes conducting international and national air transport operations. The aerodrome regulatory regime sets out when an aerodrome is to be certified or when to be registered. For smaller aerodromes used for light aircraft operations having aeroplanes with less than 10 passenger seating capacity, the regulatory requirement is governed by CAAP Memorandum Circular 18-10 (2010) and a permit-to-operate is required to operate such aerodrome. The standards for the above types of aerodromes are contained in the MOS.
- 6.2 Subject to published conditions of use, aerodromes and their associated facilities shall be kept continuously available for flight operations during published hours of operation, irrespective of weather conditions. ‘Published conditions of use’ refers to aeronautical data promulgated by Philippines AIP or NOTAM or information broadcast by Air Traffic Control Units.
- 6.3 To assist aerodrome operators or potential operators, some general advice about specifications, procedures and other information of an educational or advisory nature may be issued from time to time by CAAP in the form of Advisory Circulars.
- 6.4 The scope of this circular therefore is confined to the safety, regularity and efficiency aspects of aerodrome facilities, equipment and operational procedures and how through the strategies enumerated herein, the infringement due to use of lands within the aerodrome can be reconciled. Correspondingly, this AC defines the roles, duties and responsibilities of the aerodrome operators in the process of reconciling safe aerodrome operations and hazards generated by land use for infrastructure, prevalence of wildlife and other land use based hazards.

7. Obstacle Limitation Surfaces

7.1 The Civil Aviation Act of 2008

- 7.1.1 Aerodrome standards may change from time to time to meet identified safety needs, technological changes and changes in international standards and practices. It is recognized that there may be difficulties and limitations in applying new standards to existing aerodrome facilities and installations. Therefore in the absence of uncertain standards and or conflicting interpretation of standards, and in the interest of aviation safety, this AC basically reconciles the issue by invoking the discretionary power of the Director General of the Civil Aviation Authority of the Philippines through its Board of Directors provided for in paragraph “j” SEC. 24 R.A. 9497 CHAPTER V which states “The Board shall have the following general powers: *Promulgate rules and regulations as may be necessary in the interest of safety in air commerce pertaining to the issuance of navigation facility and aerodrome certificates; air traffic routes; radio and aeronautical telecommunications and air navigation aids;*

aircraft accident inquiries; aerodromes, both public and private-owned; construction of obstructions to aerodromes; height .of buildings; antennae and other edifices;....and such other rules and regulations, standards, governing other practices, methods and for procedures as the Director General may find necessary and appropriate to provide adequately for safety regularity and efficiency in air commerce and air navigation. Also SEC76 provides: “The Board shall have the power to regulate the height of buildings, towers, antennae, and other edifices, situated within the vicinity of or in close proximity to airports estimated to endanger the flight of aircrafts. It shall also has the power to prohibit or regulate the establishment and operations of electrical, electronics, sound, magnetic, laser, or other electronic gadgets, equipment or installations which will tend to interfere with or impair air navigation in accordance with the international standards and recommended practices on airports, as recommended by the ICAO.

7.2 The Civil Aviation Regulations governing Aerodromes (CAR-Aerodromes) and the Manual of Standards (MOS)

- 7.2.1 The aerodrome operator must have in place obstacle limitation surfaces for the aerodrome that are defined surfaces in the airspace above and adjacent to the aerodrome. These obstacle limitation surfaces are necessary to enable aircraft to maintain a satisfactory level of safety while maneuvering at low altitude in the vicinity of the aerodrome. These surfaces should be free of obstacles and subject to control such as the establishment of zones, where the erection of buildings, masts and so on, are prohibited.
- 7.2.2 The OLS surfaces for certificated and registered aerodromes are found in Chapter 7 of the MOS and for aerodromes requiring permit-to-operate are found in Chapter 13 of the same manual and can also be sourced directly from the aerodrome operator. It is important that any proposed building or structure does not infringe required OLS areas. Consultation with the aerodrome operator and the relevant local authority at an early stage is essential.

8. Wildlife Hazard Management

- 8.1 Under CAR-Aerodromes, an aerodrome operator must establish an environmental management program to minimize or eliminate any wildlife hazard that presents a hazard to aircraft operations at their aerodrome in areas within their authority. Specific strategies are included in CAAP Advisory Circular AC 139-05-A, Establishment of Wildlife Hazard Management at Airports by Aerodrome Operators.
- 8.2 The management of wildlife, especially birds, is critical for aircraft operational safety. Bird strikes put the lives of aircraft crew members and their passengers at risk. It is important that land use changes are monitored and reviewed by the aerodrome operator in areas outside their immediate control to ensure that these land use changes do not increase wildlife hazards for the aerodrome.
- 8.3 Garbage disposal dumps and other sources that may attract wildlife activity on, or in the vicinity of, an aerodrome, need to be assessed as a potential source of wildlife

hazard. It is an ICAO requirement that such activities are closely managed by the controlling authority. If necessary an aeronautical study may need to be undertaken to assess the potential wildlife activity hazard.

8.4 Examples of wildlife attractants include:

- Refuse Dumps and landfills
- Sewage Treatment and Disposal
- Agricultural - cultivation of land, types of activity e.g. cattle farming.
- Fish processing plants
- Cattle feed lots
- Wildlife refuges
- Artificial and natural lakes
- Animal farms
- Abattoirs and freezing works

8.5 Proper planning of these activities and their impacts on wildlife should be undertaken. It should be noted that aircraft approach and departure areas may extend for a distance from the aerodrome runway, therefore wildlife impacts on aircraft activities may not be immediately apparent. Consultation with the aerodrome operator as early in the planning as possible becomes a necessity.

8.6 The International Civil Aviation Organization provides specific environmental management and site planning information on the following:

9. Refuse dump or landfills

9.1 If a refuse dump is proposed in the vicinity of the aerodrome there may be a requirement to provide bird control at the site to reduce the attractiveness to birds. The potential threat to aircraft depends on location relative to airport and flight paths, type of refuse, and the types of birds expected in the vicinity. The ICAO Bird Control and Reduction Manual recommend that refuse dump sites be located no closer than 13 kilometers from the airport property. The proper siting of refuse dumps can reduce hazard and any location should be analyzed by a group of specialists on bird problems.

10. Water

10.1 Surface water is a large bird attractant and developments that have drainage ditches, artificial waterways and large areas of water close to an aerodrome may attract birds and other wildlife. In the ICAO Bird Control and Reduction Manual it is noted that in the vicinity of an aerodrome artificial and natural lakes increase the bird strike hazard depending on the size and the shape of the lake, its ecological state and the surroundings. It is recommended that an ornithologist/biologist evaluate the ecological conditions of the whole vicinity as well as migration in the area. The bird strike hazard can be reduced if the lake is made smaller and the shores steeper, and if fishing, hunting and water sports are forbidden. Filling a lake with soil or covering the surface with wires and nets are two of the better solutions to the problem.

11. Building Codes

- 11.1 Building Officials of local municipalities / provinces implement their own Zoning Ordinance, and therefore, will require applicants for a Height Clearance Permit if the proposed site of the building/structure is covered by any restrictions. While generally concerned with the functional or structural aspects of buildings or structures, the Philippine National Building Code has special requirements for properties located in close proximity of an aerodrome to secure height clearance permit from the CAAP.

12. Notice of Intention to Construct, Alter, Activate or Deactivate an Aerodrome

- 12.1 Inherently Sec.78, Chapter X of R.A. 9497 requires that prior notice be given to the CAAP whenever a person intends to construct, alter, activate or deactivate an aerodrome. This notice will enable the Director General to identify whether the use of the airspace associated with the aerodrome proposal will be a hazard to other established airspace users. It will also allow identification of problems to do with the safety of persons and property on the ground. It is also necessary to consider efficient use of airspace at an early stage. The Director General, after receiving such notice, will give advice on the effects the proposal would have on the use of navigable airspace by aircraft and on the safety of persons and property on the ground. An aeronautical study will be undertaken and a determination on the proposal made.

13. Objects and Activities Affecting Navigable Airspace

- 13.1 Also inherently Sec. 76 Chapter X of R.A. 9497 prescribes rules for a person proposing to construct or alter a structure that could constitute a hazard in navigable airspace; or use of a structure, lights, lasers, weapons, or pyrotechnics, that could constitute a hazard in navigable airspace. Likewise the MOS under Chapter 7 provides guidelines on several areas that require application for a determination on such objects and activities among which is a structure that penetrates the obstacle limitation surface of an aerodrome. Full details of which can be accessed at the CAAP web site www.caap.gov.ph

14. Noise Issues

- 14.1 Noise issues to do with aerodromes are the responsibility of the local controlling authority and except for a NOTAM issued on noise abatement procedures for RWY 13/31 at the Ninoy Aquino International Airport (NAIA), the CAAP does not have any statutory function in relation to aircraft or aerodrome noise. Jet engines nowadays are so designed to be compliant with the noise abatement required by ICAO so much so that noise generated by modern engines are not much of a problem...

15. Local Authority Zoning

- 15.1 The CAAP encourages local authorities to protect aerodromes in their areas to ensure the long term sustainability of the aerodrome, the safety of the aircraft operations, and the safety of persons and property. In addition to the required obstacle limitation

surfaces other areas can be specifically zoned to assure that future uses of the land are compatible with airport operations and to protect persons and property. Zoning solely to obstacle limitation surface is insufficient to prevent the construction of incompatible uses such as housing or uses that attract congregations of people in the approach areas.

16. Official Map Regulations

- 16.1 Airport operators are encouraged to adopt map regulations in support of comprehensive plans and capital improvement programs. This strategy permits these maps to show the location and extent of existing and proposed public facilities and needs. A potential application of such map regulations would be to encourage compatible development in an area designated for a runway in an airport's Master Plan.

17. Infrastructure Extensions

- 17.1 Provision or extension of basic infrastructure elements such as water, sewer, and roadways can significantly affect the extent and direction of growth and development. Used in conjunction with comprehensive plans and Airport Master Plans can allow for land uses to take place in areas that are compatible with aviation facilities.

18. Growth Policies

- 18.1 Airport regulators are advised to coordinate with communities developing comprehensive plans using the concept of controlling growth in specific areas. Identification of airports, surrounding affected areas, and Master Plan concepts, as part of growth policies planning is critical for successful growth policies planning.

19. Negotiation/Mediation

- 19.1 Issues arising generated by the concept of "grandfather's rule" can be resolved by this technique. The negotiation or mediation technique can be an important tool when employed to address land use compatibility conflicts or disputes associated with airport facilities.

20. Public Education and Awareness Programs

- 20.1 Airports or local planning agencies that expect a reasonable chance of success in their planning efforts must provide for public education and awareness in the planning process.

21. Information Exchange

- 21.1 Information exchange is a two-way flow of information. Once the information is disseminated, a dialogue occurs that may be used to enhance the education process and ultimately improve land use compatibility planning and to determine the public's attitude toward or acceptance of the disseminated message. Among the information exchange opportunities are public workshops, public advisory committees, radio/T.V. talk shows, and speaking engagements.

22. Conclusion

- 22.1 Aerodromes have an important role in aviation safety in particular the safety of aircraft and passengers. In the Philippines the civil aviation authority oversees aviation safety based upon international aviation requirements. It is important that persons wanting to alter land use near an aerodrome do so in consultation with the aerodrome operator, the relevant local authority and, where necessary, the Civil Aviation Authority of the Philippines. It is important that land use changes near aerodromes are also compliant with any CAAP Aviation Rule requirements because airport safety and land use processes are closely intertwined. This AC therefore seeks to address the conflicting issues through strategies that focused on communication and cooperation, and directed toward the establishment of those common goals that are necessary for the development of compatible land use programs.

23. CAAP Contact Information

- 23.1 The Aerodrome and Air Navigation Safety Oversight Office (AANSOO) of the CAAP has responsibilities for the oversight of the services supporting the aerodrome and air navigation services system.

- 23.2 Inquiries may be forwarded to:

Address: Aerodrome and Air Navigation Safety Oversight Office (AANSOO)
Civil Aviation Authority of the Philippines
Mia Rd., Pasay City 1300.

Tel. No. 02-8799118

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