Los Angeles World Airports

VAN NUYS AIRPORT

AIRPORT SURFACE MOVEMENT PROGRAM

June 2022

Introduction

Airport Surface Movement Program (ASMP) Driver Training Course

- Multiple-choice exam
  - 40 Questions
  - Minimum passing score: 90% correct
- Successful completion awarded with ASMP Driver's Permit with appropriate privileges

Training Program Goals

1. Prevent runway incursions or surface incidents on movement areas
2. Provide familiarization with Van Nuys Airport (VNY) airfield layout, signs, markings, and lighting
3. Teach proper aviation radio communication procedures and phraseology
4. Provide general information regarding vehicle operating procedures on the Airport
5. ***Increase operational safety***

Van Nuys Airport Rules & Regulations Requirement

- The VNY Rules and Regulations requires that each applicant who, by the scope of their operation/employment, requires access to the movement areas (runways and taxiways),must review the online ASMP presentation and pass a written examination administered by Airport Operations prior to receiving a motor vehicle operator’s permit with movement area privileges.

Van Nuys Airport Rules & Regulations Requirement

The VNY Rules and Regulations require:

- "*All aircraft tow operations that require the crossing of a runway **must** be escorted by Airport Operations".*

Program Sections

- SECTION 1: VNY Airfield familiarization
- SECTION 2: Airfield markings, lighting and signs
- SECTION 3: Aviation radio communication procedures and phraseology
- SECTION 4: General airfield driving rules and regulations

Definition: Surface Incident

- Any entry into the movement area (*Except Runways*) by a vehicle or pedestrian that has not been authorized by air traffic control (ATC).

Definition: Runway Incursion

- Any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that enters the protected areas of a *runway* without authorization from ATC .

Runway Incursion Severity

Category D	Category C	Category B	Category A	ACCIDENT
Little or no chance of collision but meets the definition of a runway incursion	Separation decreases but there is ample time and distance to avoid a collision	Separation decreases and there is a significant potential for collision	Separation decreases and participants take extreme action to narrowly avoid a collision	**An incursion that resulted in a runway collision**

Preventing Runway Incursions

AN AIRPORT OPERATIONS ESCORT IS *REQUIRED* FOR *ALL* VEHICLE / TUG OPERATIONS REQUIRING THE CROSSING OF ANY RUNWAY AT VAN NUYS AIRPORT!

! NO EXCEPTIONS !

Airfield Familiarization

Section 1

Air Operations Area

- The *Air Operations Area* (AOA) is any area of the airport used or intended to be used for the landing, takeoff and surface maneuvering of aircraft
- Any area located beyond “RED” tenant leasehold boundary line
- The Service Road is within the AOA
- Tenant leaseholds *<u>are not</u>* considered part of the AOA

Movement Area

- Runways
  - Used for the takeoff and landing of aircraft
- Taxiways
  - Used for the surface movement of aircraft
  - May be used by helicopters for takeoff and landing

VNY Movement Area

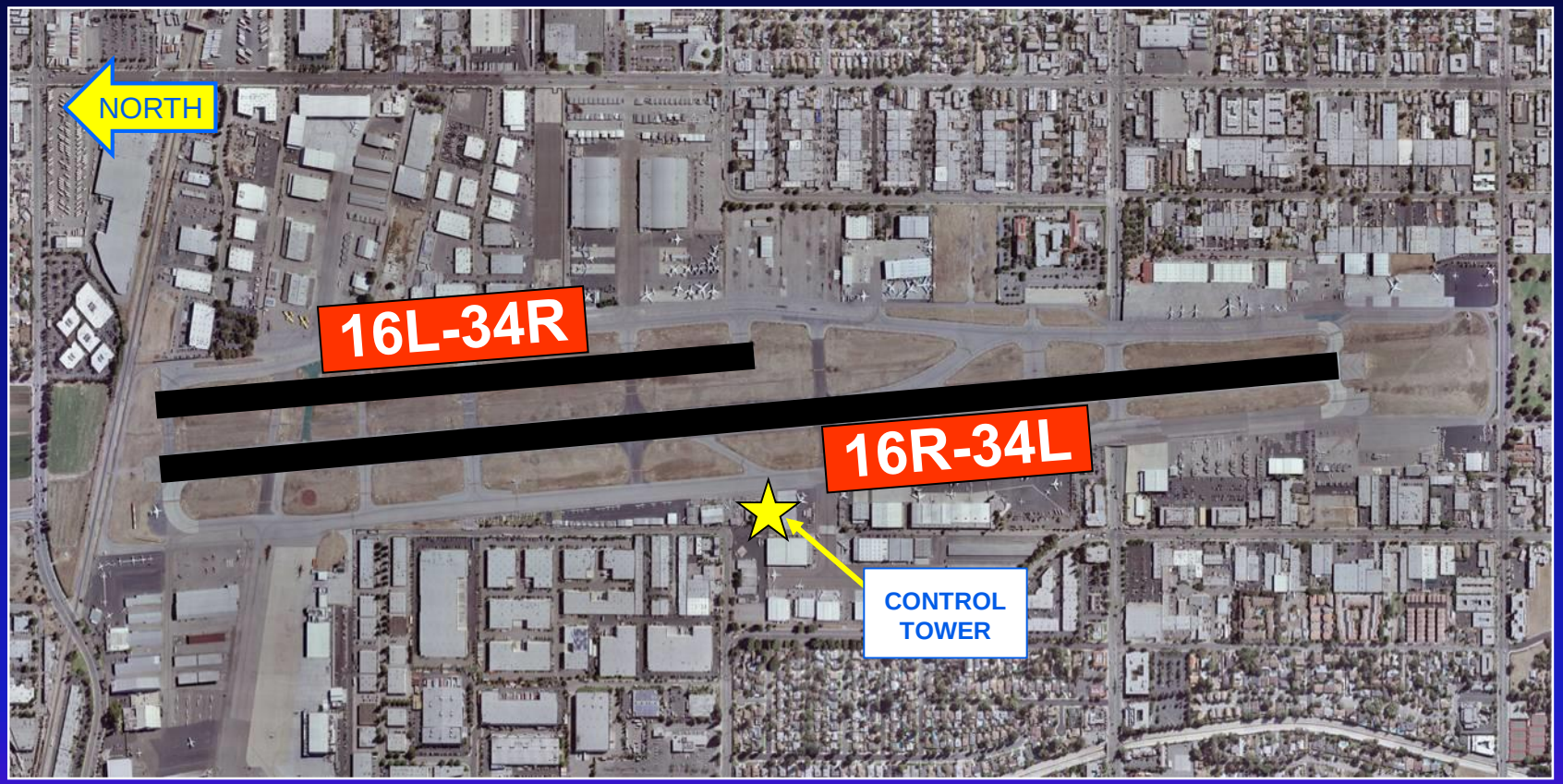
Runways

- Rectangular-shaped
- Paved surface
- Designed for the landing or takeoff of aircraft.

Runways

- Parallel Configuration
- Oriented in the North-South direction
- Long Runway
  - 16R-34L (8000 feet)
- Short Runway
  - 16L-34R (4000 feet)

VNY Runway Layout



Taxiways

- Paved surface
- Facilitates movement of aircraft from one part of the airport to another
- Provides access to the runway

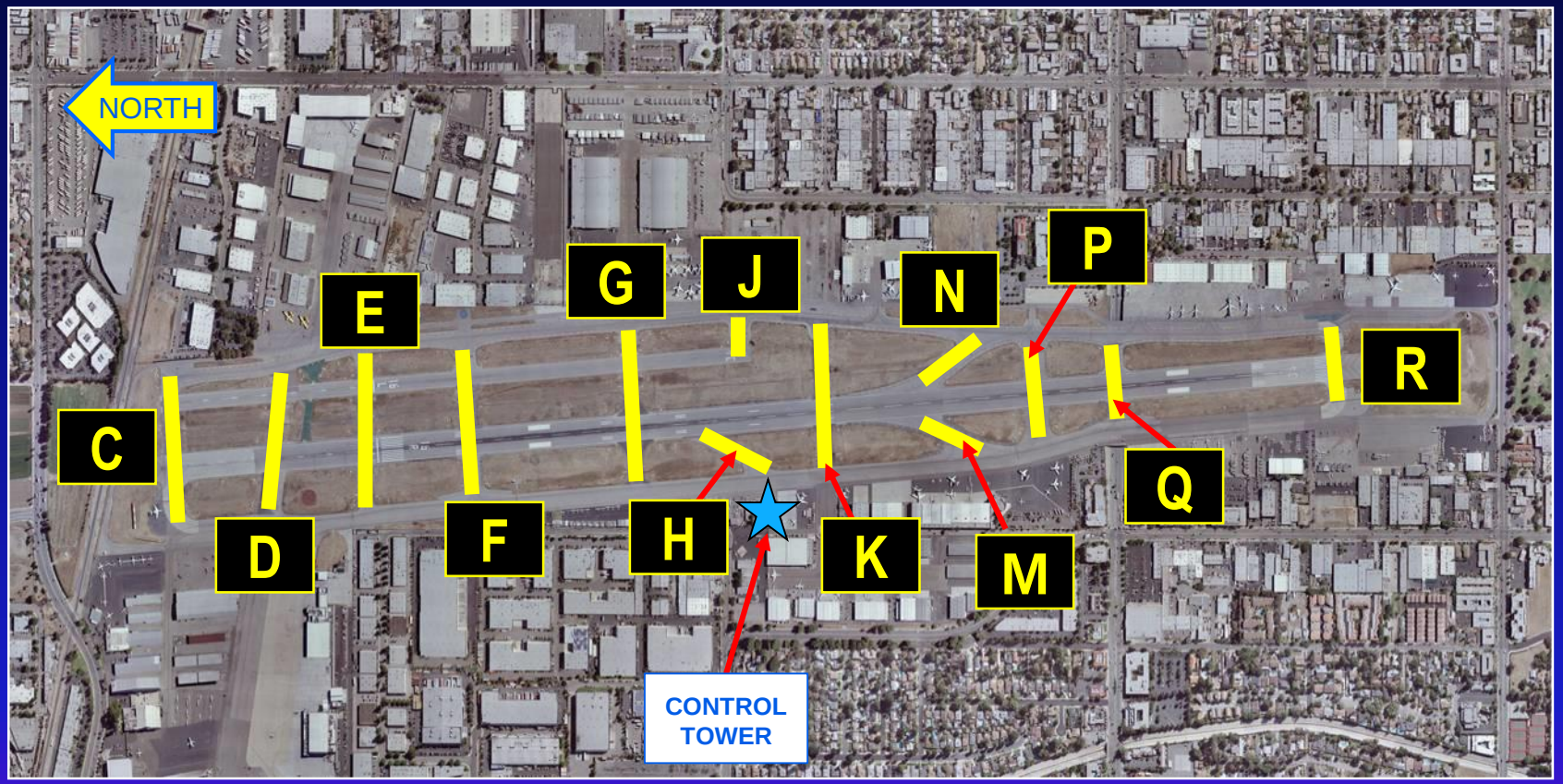
Taxiways

- At VNY Airport there are two types of taxiways
  - Parallel (run the same direction as RWY)
  - Connector (crosses RWY's, also known as "tie-ins")
- Designated with letters

VNY Taxiway Configuration

Parallel taxiways “ALPHA” and “BRAVO”

VNY Taxiway Configuration



Connector Taxiways (tie-ins) connect movement areas to each other

Taxilanes

- Paved surface
- Branches off of main taxiway
- Provides access to ramp
- Considered non-movement area

VNY Taxilane Locations

Safety Areas

- The surfaces surrounding the runway/taxiway environment.
- Capable of supporting the occasional passage of aircraft without causing structural damage.
- Included as part of movement area.

VNY Runway Safety Areas

Ramp & Apron Areas

- Non-movement area
- Aircraft parking area used for:
  - Embarking / disembarking of passengers
  - Loading / unloading cargo
  - Fueling
  - Maintenance
  - Tie-downs

Review

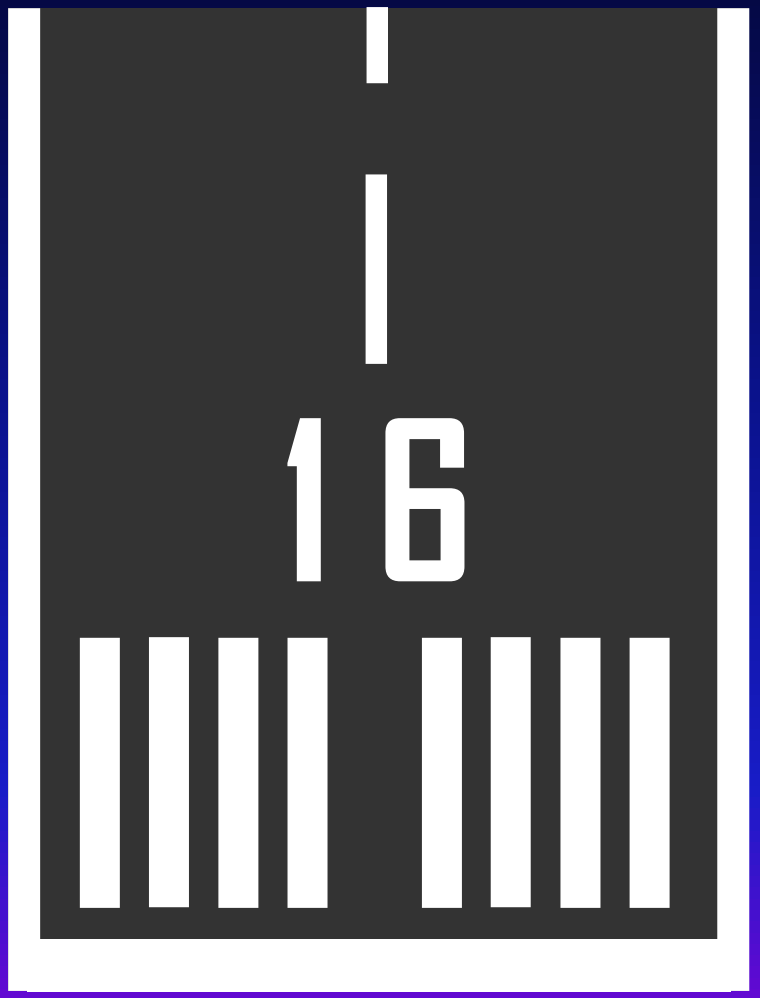
- Runway Incursions / Surface Incidents
- AOA
- Runway
- Taxiway
- Taxilane
- Movement Area
- Non-movement Area
- Safety Area

Airfield Markings, Lighting and Signs

Section 2

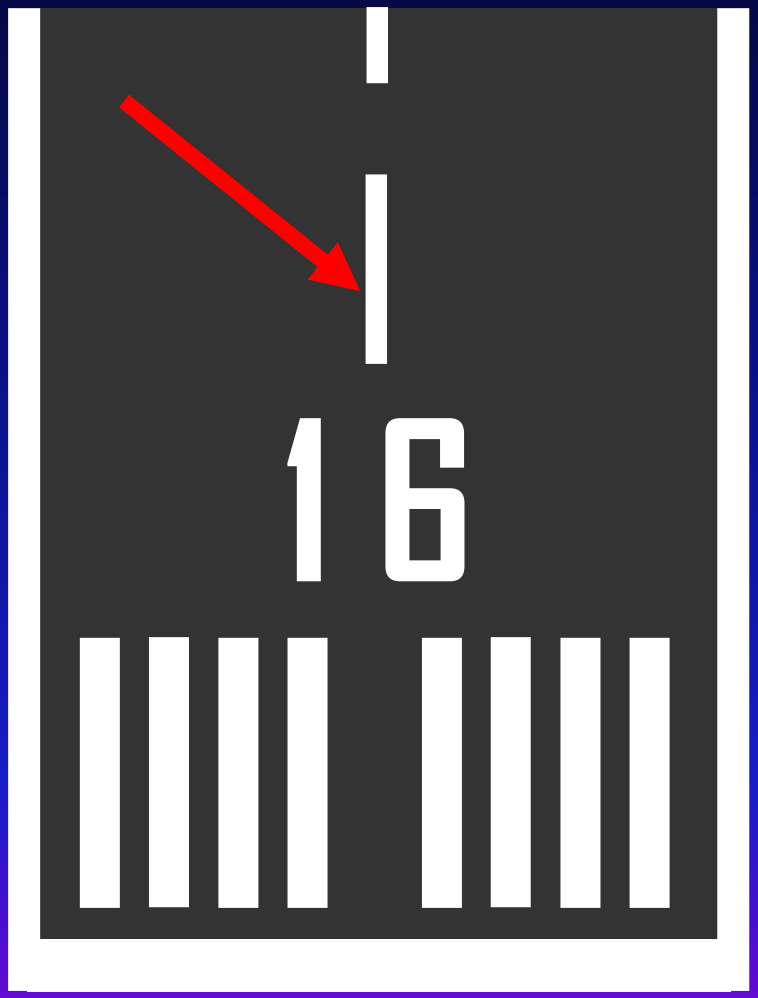
Runway Surface Markings

- All surface markings for a runway are painted **WHITE**.



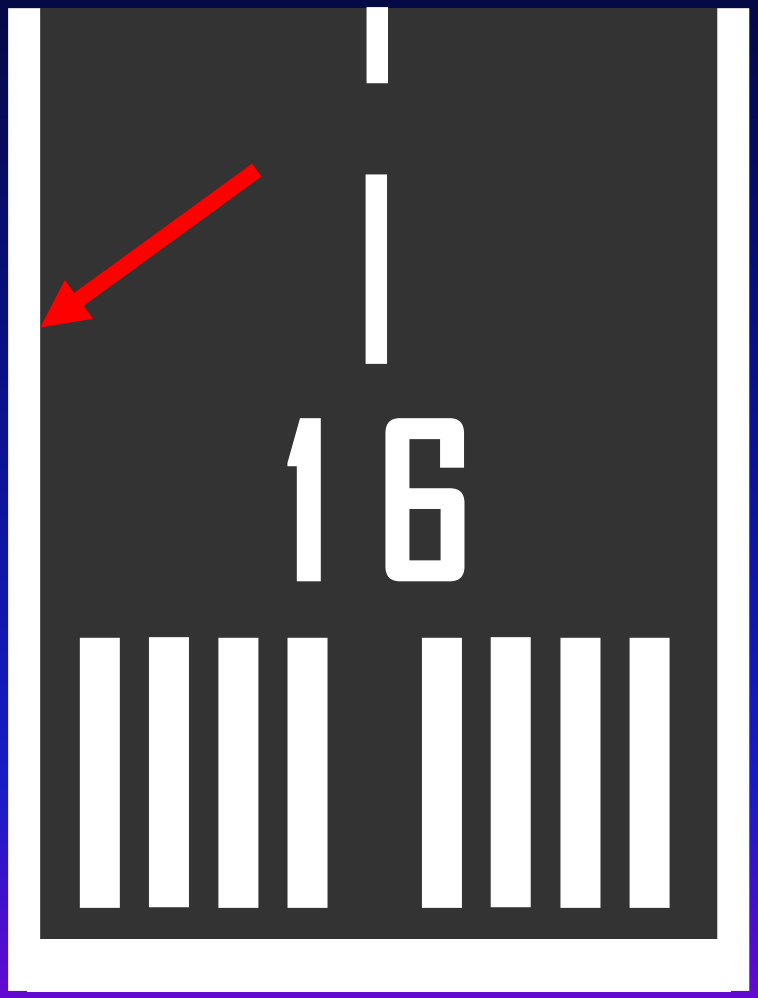
Runway Surface Markings

- Runway Centerline
  - White in color
  - Wide Dashed stripe
  - Indicates the center of the runway
  - Provides alignment guidance for aircraft



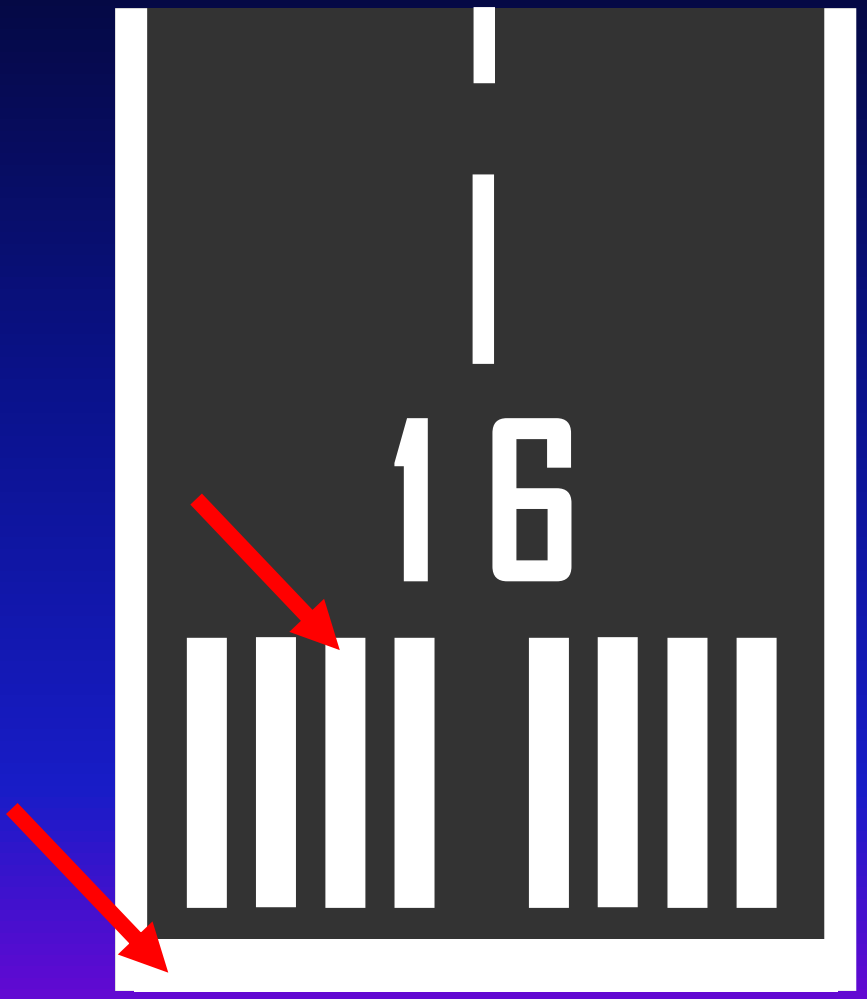
Runway Surface Markings

- Runway Edge-lines
  - White in color
  - Single solid wide stripe
  - Indicates the edges of the usable runway as well as the edge of the full-strength pavement



Runway Surface Markings

- Runway threshold markings
  - White in color
  - Identifies the beginning of the runway which is available for landing.

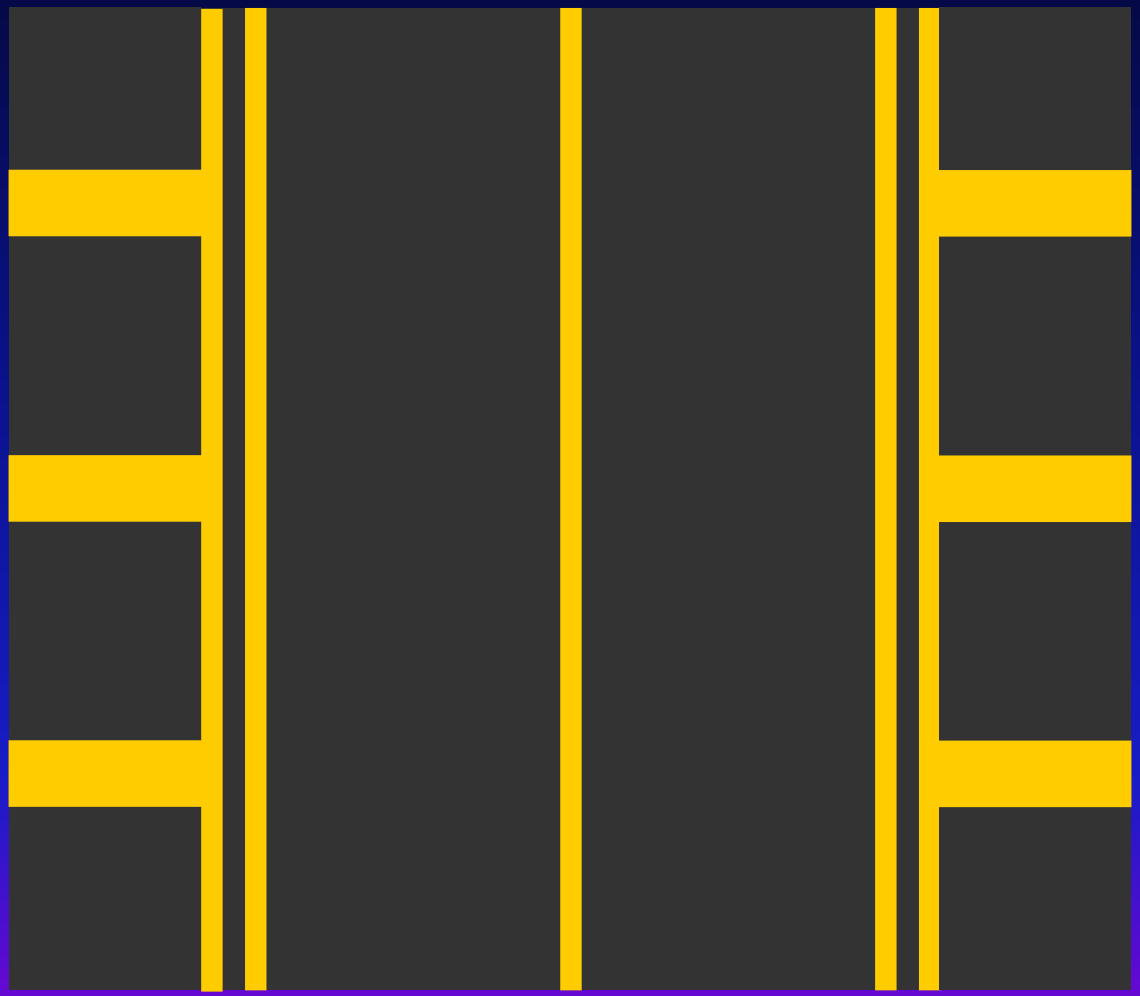


Runway Lighting

- Runway edge lights
  - White in color
  - Used to define the edge of the runway during periods of darkness and reduced visibility
  - Flush mounted or above ground

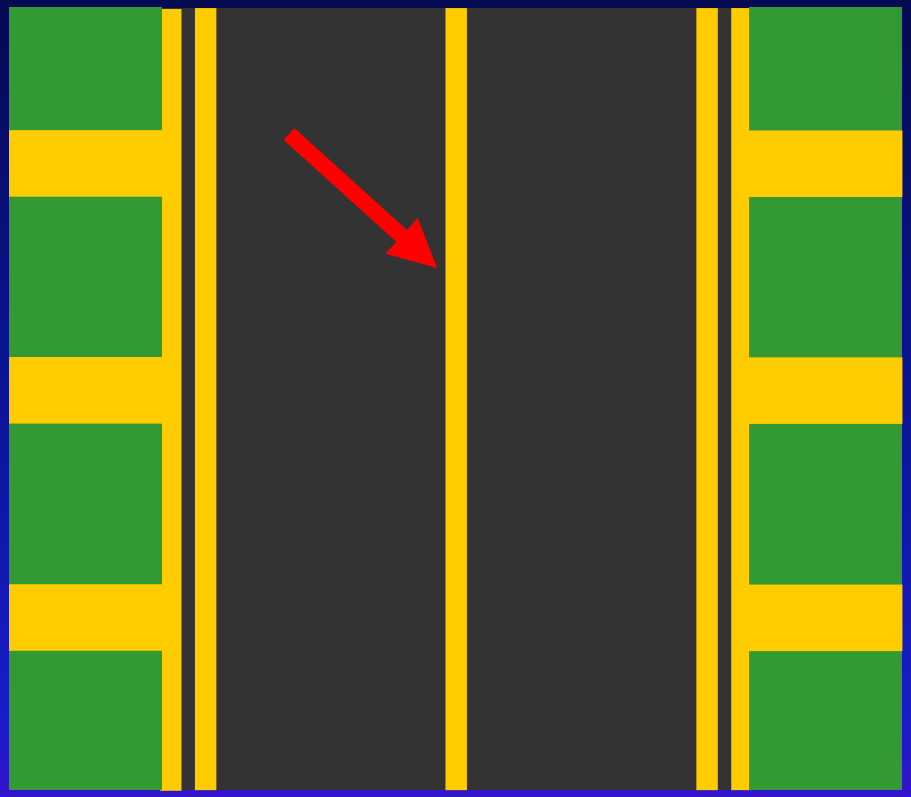
Taxiway Surface Markings

- All surface markings on a taxiway are painted **YELLOW**.



Taxiway Surface Markings

- Taxiway Centerline
  - Yellow in color
  - Narrow Solid stripe
  - Indicates the center of the taxiway
  - Provides alignment guidance for aircraft



Taxiway Surface Markings

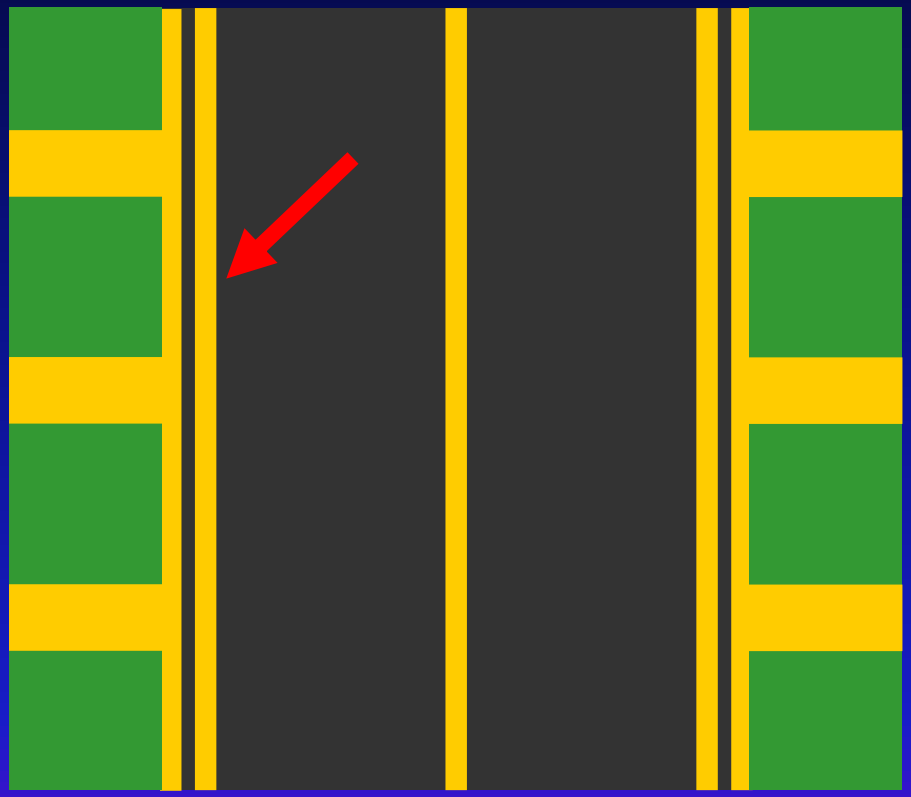
Taxiway Centerline

Taxiway Surface Markings

- Enhanced taxiway centerline
  - Centerline markings are enhanced 150 feet prior to the runway holding position marking.

Taxiway Surface Markings

- Taxiway Edge-line
  - Yellow in color
  - Solid double Line
  - Indicates the boundary of the full-strength pavement
  - Should not be crossed by aircraft

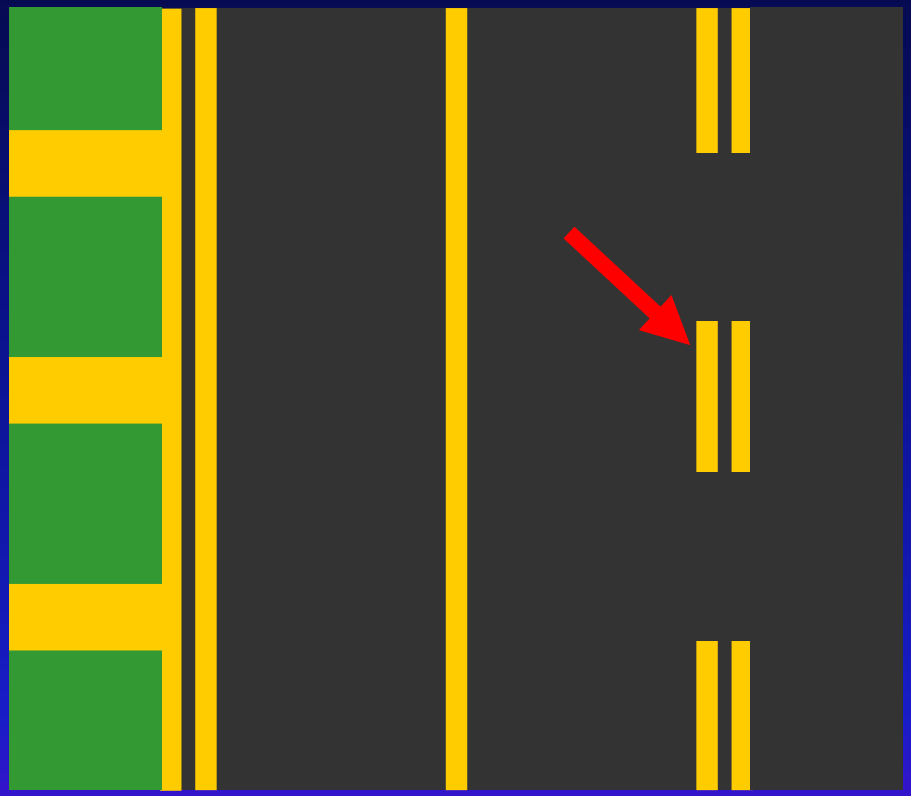


Taxiway Surface Markings

Taxiway Edge-line with Shoulder Markings

Taxiway Surface Markings

- Dashed Taxiway Edge-line
  - Yellow in color
  - Dashed double stripe
  - Indicates the full-strength pavement continues beyond edge of taxiway
  - May be crossed by aircraft
  - Usually found where ramp area is adjacent to taxiway

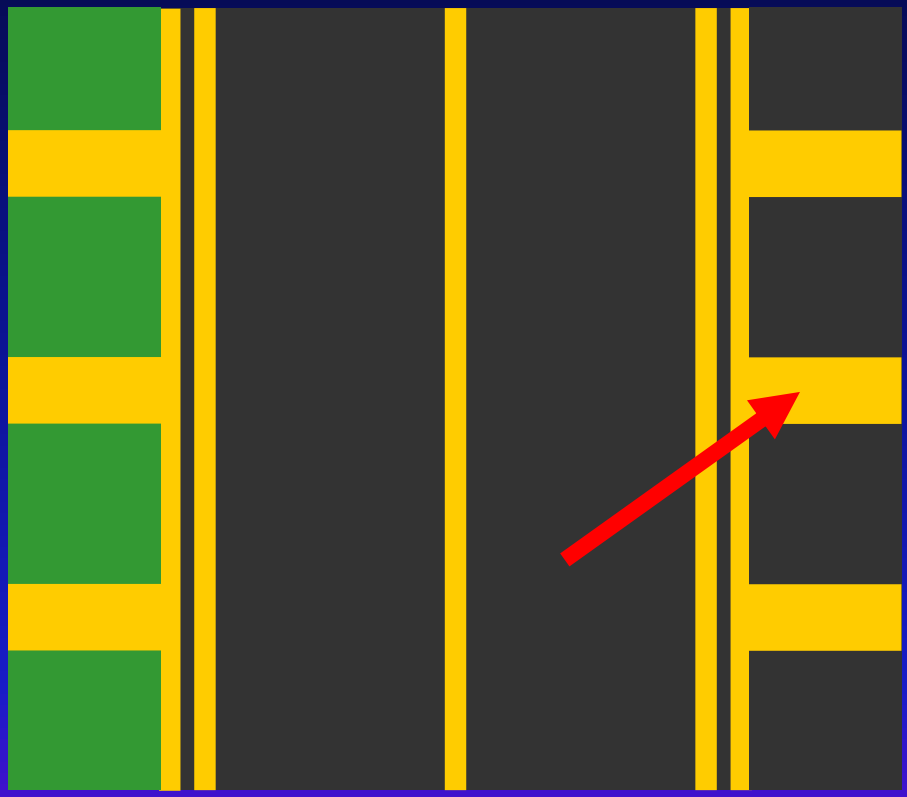


Taxiway Surface Markings

Dashed Taxiway Edge-line

Taxiway Surface Markings

- Taxiway Shoulder Markings
  - Yellow in color
  - Solid transverse stripe extending from edge-line into shoulder area
  - Indicates pavement area not intended for aircraft use
  - Should not be crossed by aircraft



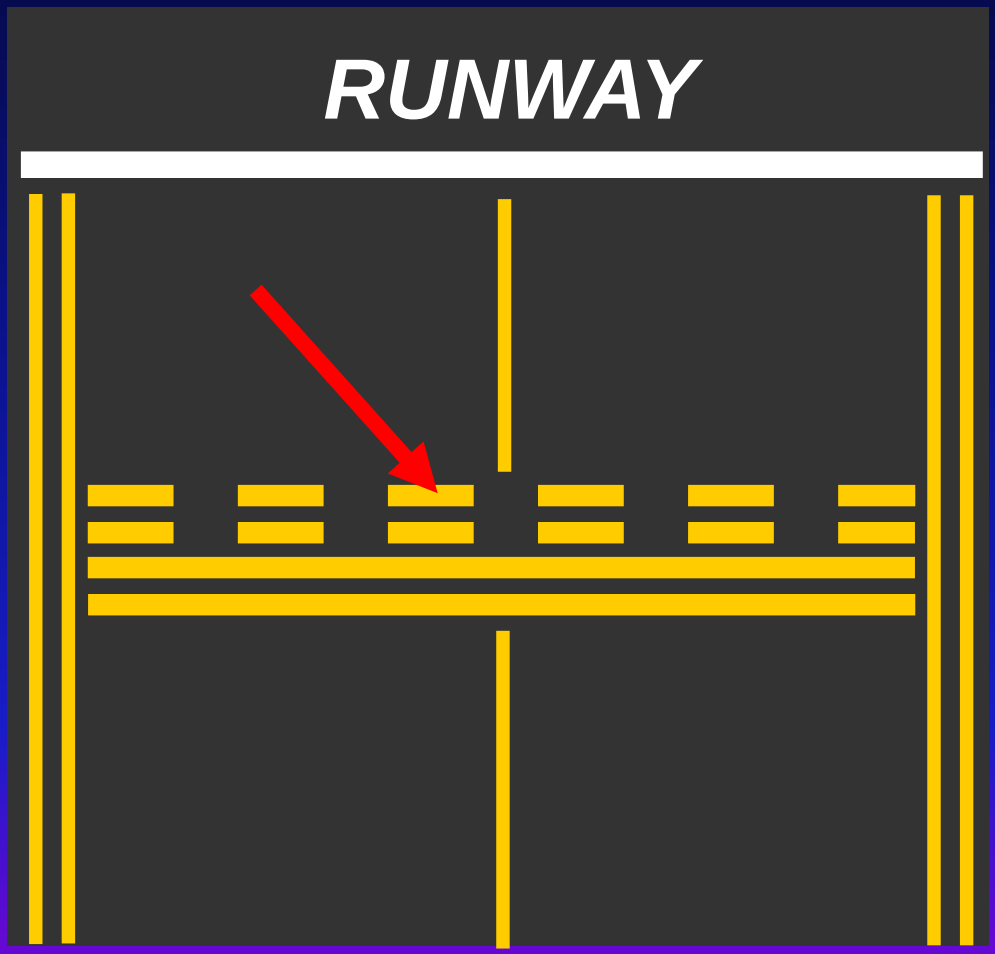
Paved areas which are unsuitable for aircraft MAY be painted green.

Taxiway Surface Markings

Shoulder Markings

Taxiway Surface Markings

- Runway Holding Position Marking
  - Yellow in color
  - Two solid lines and two dashed lines
  - Indicates intersection of a runway and taxiway
  - YOU MUST HOLD SHORT OF THE RUNWAY ON THE **SOLID SIDE** OF THE LINE

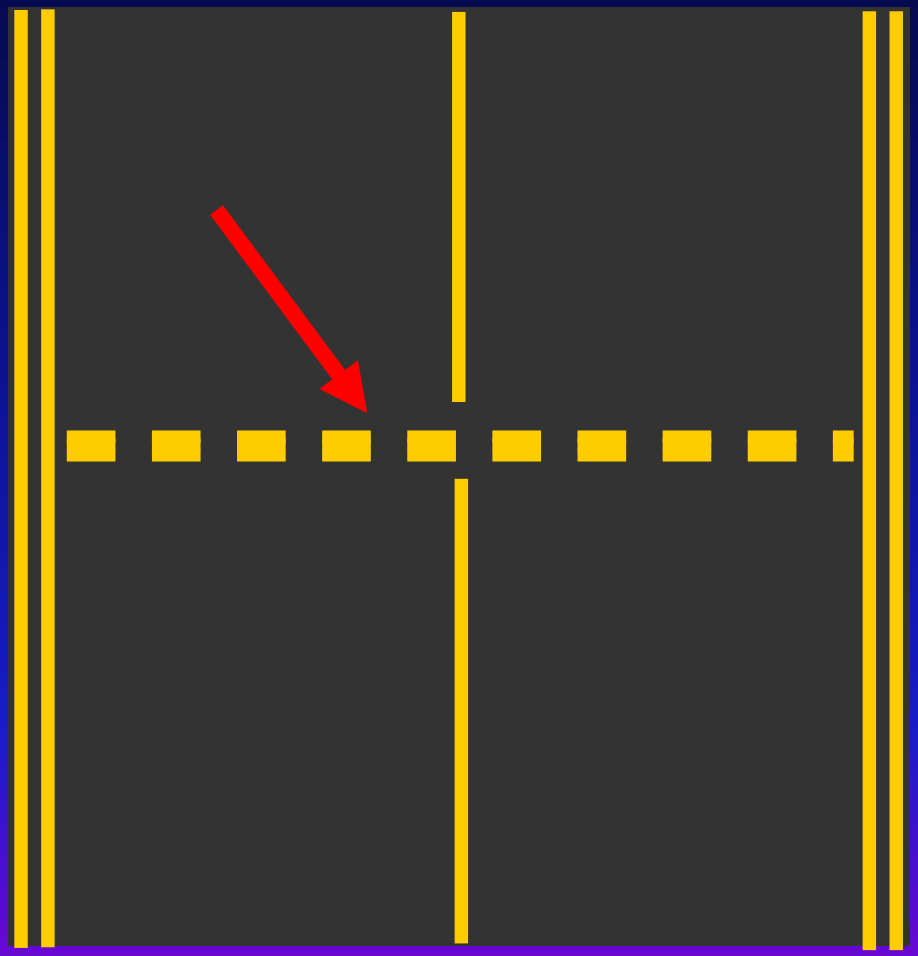


Taxiway Surface Markings

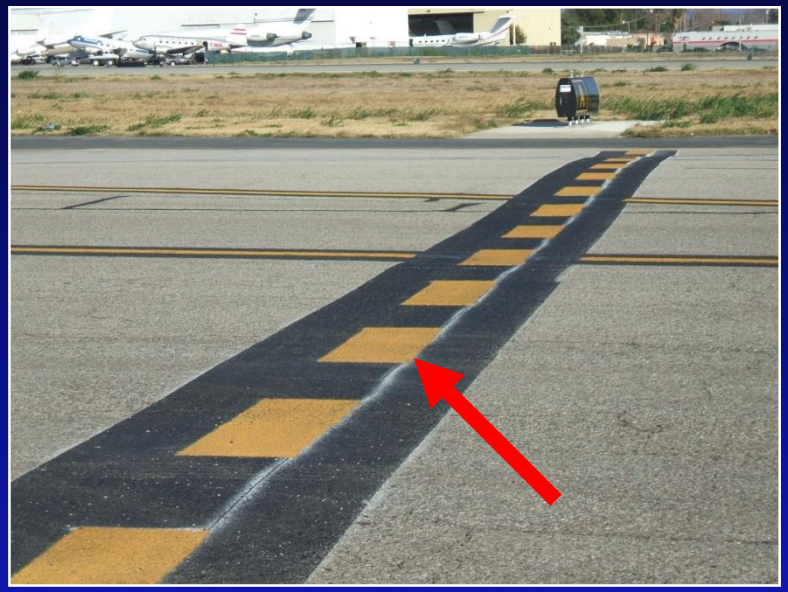
- ***ALL* AIRCRAFT / VEHICLES MUST HOLD SHORT OF THE RUNWAY ON THE *SOLID SIDE* OF THE DOUBLE LINES!**

Taxiway Surface Markings

- Taxiway Holding Position Marking
  - Yellow in color
  - Dashed line
  - Indicates holding position where ATC **MAY** require an aircraft or vehicle / tug to hold.
  - Hold short of this marking ONLY if ATC instructs you to.



Taxiway Surface Markings



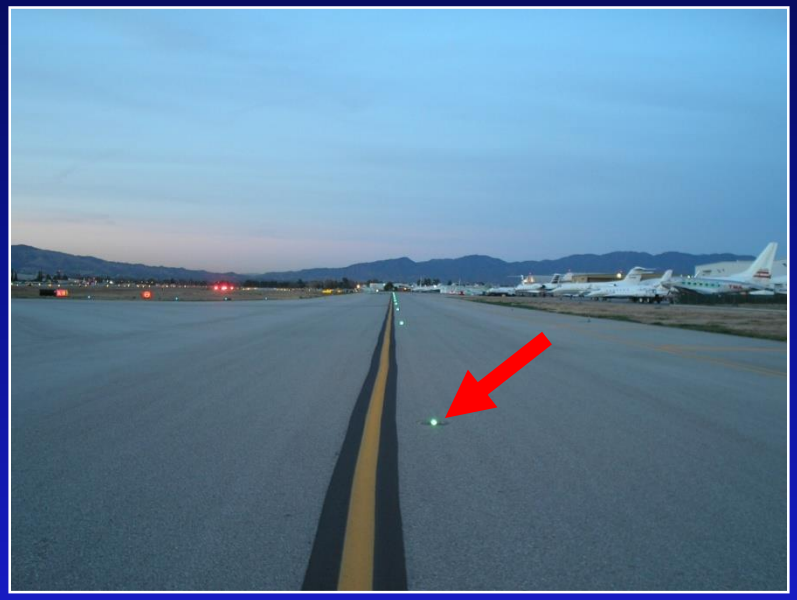
- Taxiway Holding Position Marking

Taxiway Lighting

- Taxiway Edge Lights
  - Blue in color
  - Define the edge of the taxiway during periods of darkness and reduced visibility
  - Flush mounted or above ground

Taxiway Lighting

- Taxiway Centerline Lights
  - Green in color
  - Define the centerline of the taxiway during periods of darkness and reduced visibility



Taxiway Lighting

- Runway Guard Lights
  - Amber in color
  - Flashing or steady-burning
  - Extends across the taxiway, parallel to the runway holding position marking

Taxilane Markings & Lighting

- Marked the same as taxiways, yellow centerline and edge stripes
- Green centerline lights or reflectors
- Blue edge lights or reflectors

Airfield Signs

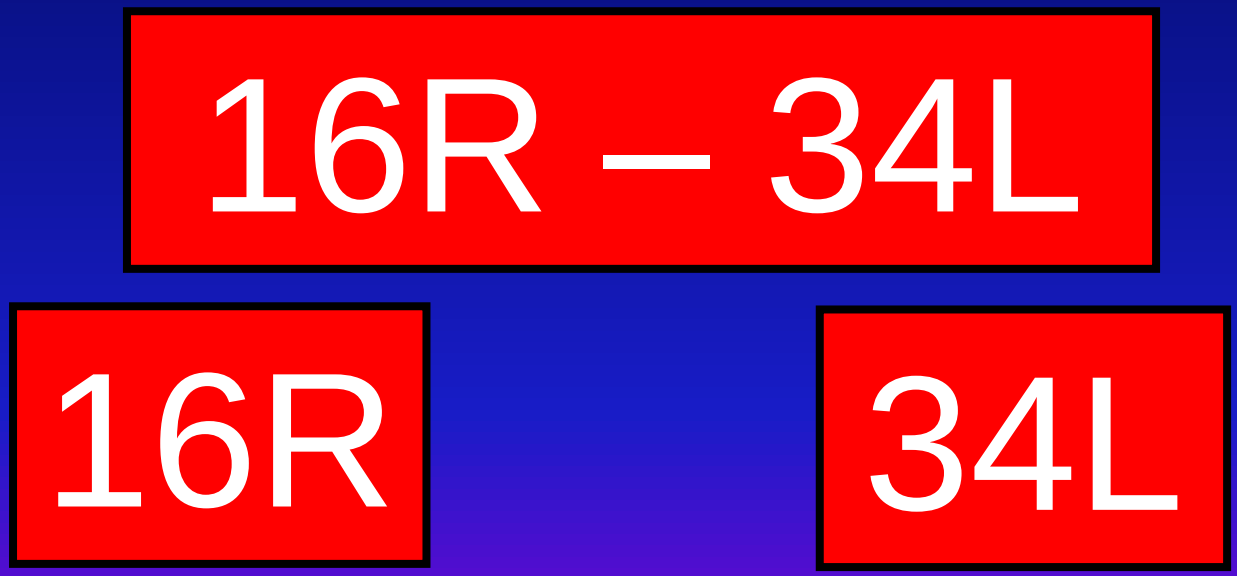
- Additional visual reference.
- Provide information about your position on the airfield.
- Illuminated at night and during low visibility.

Airfield Signs

- There are five types of signs:
  - Mandatory Instruction Signs
  - Location Signs
  - Directional Signs
  - Information Signs
  - Runway Distance Remaining Signs

Airfield Signs

- Mandatory Instruction Sign
  - Red background
  - White inscription



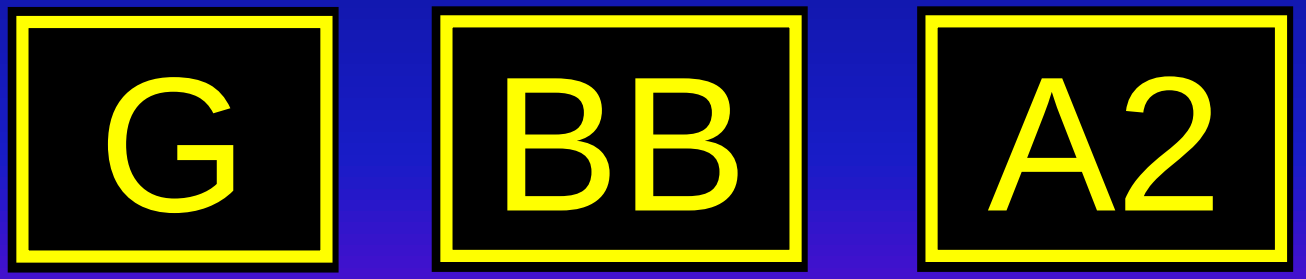
Mandatory Signs

Airfield Signs

- Mandatory signs mean **STOP**
- ***Do not*** proceed past a mandatory sign
- Stop immediately and await ATC instructions
- Located abeam Runway Holding Position Markings

Airfield Signs

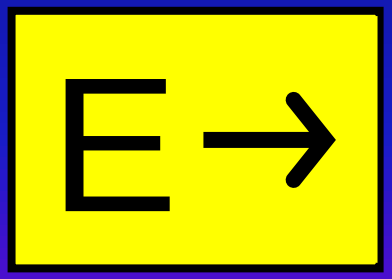
- Location sign
  - Tells you where you are
  - Black background
  - Yellow inscription
  - Yellow outline border

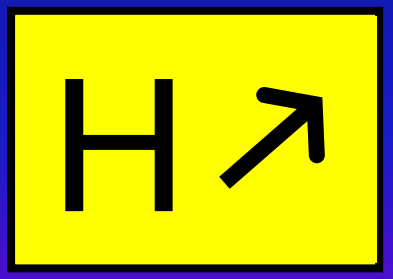


Location Signs

Airfield Signs

- Direction sign
  - Tells you which taxiway you are approaching
  - Yellow background
  - Black inscription
  - Arrow indicating direction





Direction Signs

- Direction signs are often co-located with Location signs

Airfield Signs

- Information sign
  - Provides general information
  - Yellow background
  - Black inscription

Information Sign

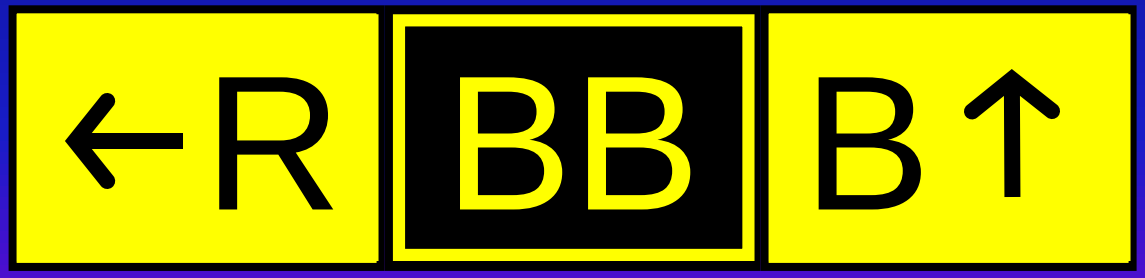
Airfield Signs

- Runway Distance Remaining sign
  - Indicates runway distance remaining in 1,000 foot increments
  - Black background
  - White inscription

Runway Distance Remaining Sign

Airfield Signs

- Signs of different types are often grouped together
- These are known as *co-located* signs

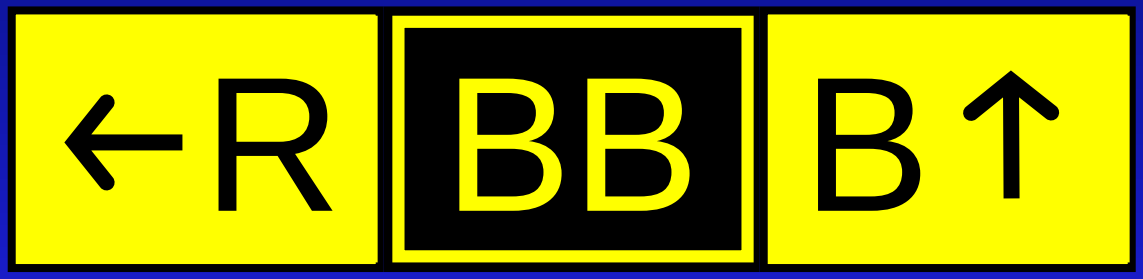


Airfield Signs

- A common example of a co-located sign is a location sign with a mandatory instruction sign

Airfield Signs

- Another common co-located sign contains direction signs and a location sign



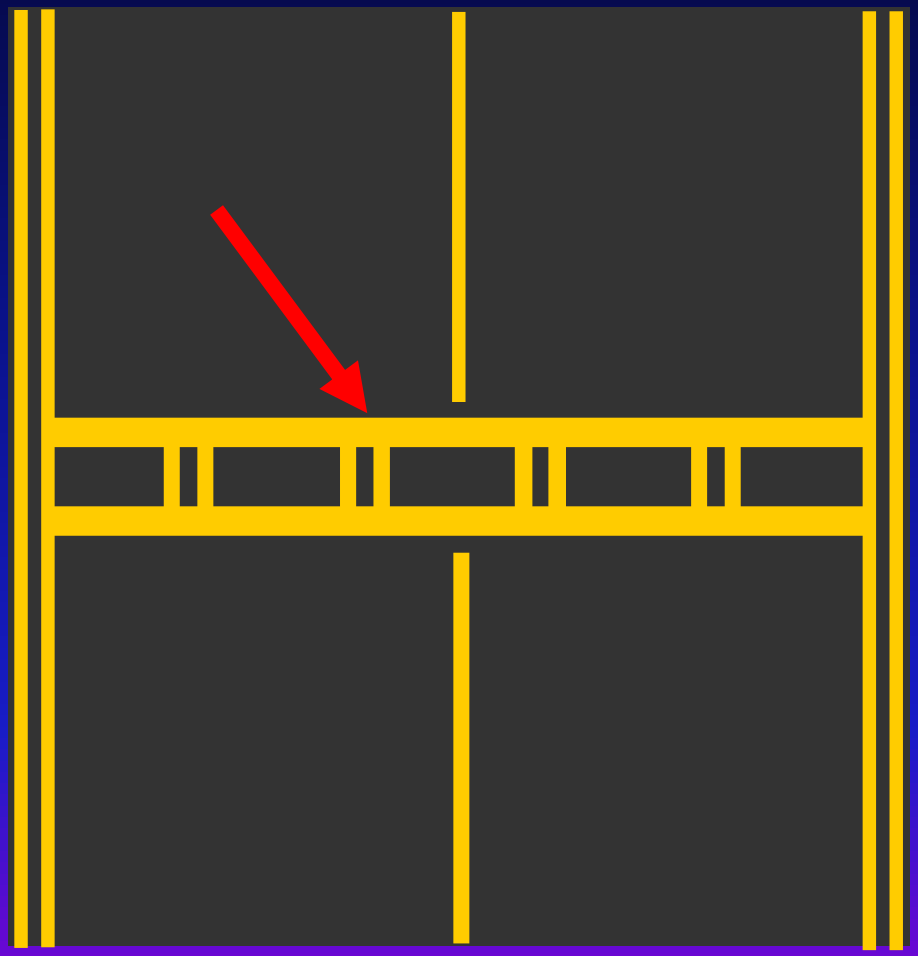
Co-located Signs

ILS Critical Area

- Portion of the taxiway in which the signals from the Instrument Landing System (ILS) equipment may be disrupted by vehicles and/or aircraft in that area
- Designated by specific pavement markings and signage
- ILS Critical Area is protected under certain weather conditions

ILS Critical Area

- ILS Critical Area Pavement Markings
  - Yellow in color
  - “Ladder” shaped
  - Indicates boundaries of the ILS Critical Area for aircraft on the taxiway



ILS Critical Area

- ILS Critical Area Holding Position Marking

ILS Critical Area

- Signage
  - Mandatory sign abeam pavement marking indicates you are about to ENTER ILS Critical Area.
  - Information sign on reverse of mandatory sign indicates you are EXITING ILS Critical Area

ILS Critical Area

- If you are towing an aircraft while the ILS is in use, ATC may instruct you to "*Hold short of the ILS Critical Area*"
- Stop prior to crossing the hold bar on the taxiway, located abeam the red ILS mandatory sign ONLY if ATC instructs you to do so.

ILS Critical Area

- ATC will instruct you when it is safe to continue with your operation

Restricted/Closed Areas

- Restricted / Closed Areas are marked with orange cones, delineators, low profile barricades and / or standing red lights placed along the perimeter of the area.

Restricted/Closed Areas

Restricted/Closed Areas

- Entry into a restricted / closed area can result in damage to property and equipment, and injury to personnel
- The red lights and cones mean “STOP DON’T GO HERE!

Restricted/Closed Areas

Aircraft / vehicles inadvertently entering a closed or restricted area may result in loss of life and substantial property damage.

Review

- Markings
- Lighting
- Signs
- Restricted / Closed areas

Aviation Radio Communication Procedures & Phraseology

Section 3

Aviation Radio Communication Procedures & Phraseology

- Communicating clearly and utilizing proper phraseology with ATC is an essential element of maintaining safety when operating on the AOA.

Aviation Radio Communication Procedures & Phraseology

- The ability to understand and use proper aviation phraseology proficiently is essential to situational awareness and clear and concise communication.

Aviation Radio Communication Procedures & Phraseology

- Phonetic Alphabet
  - A standardized aviation phonetic alphabet is used by Air Traffic Controllers worldwide.

Phonetic Alphabet

A	Alpha	AL-fah	N	November	no-VEM-bur
B	Bravo	BRAH-voh	O	Oscar	OSS-cah
C	Charlie	CHAR-lee	P	Papa	Pah-PAH
D	Delta	DELL-tah	Q	Quebec	keh-BECK
E	Echo	ECK-oh	R	Romeo	ROW-me-oh
F	Foxtrot	FOKS-trot	S	Sierra	SEE-air-ah
G	Golf	GOLF	T	Tango	TANG-oh
H	Hotel	HOH-tell	U	Uniform	YOO-nee-form
I	India	IN-dee-ah	V	Victor	VIK-tah
J	Juliett	JEW-lee-ETT	W	Whiskey	WISS-key
K	Kilo	KEE-loh	X	X-ray	ECKS-ray
L	Lima	LEE-mah	Y	Yankee	YANG-key
M	Mike	MIKE	Z	Zulu	ZOO-loo

Phraseology

- *Acknowledge* = Let me know that you have received my message.
- *Advise Intentions* = Tell me what you plan to do.
- *Affirmative* = Yes

Phraseology

- *Confirm* = My version is _____, is that correct?
- *Correction* = An error has been made in the transmission and the correct version follows.
- *Expedite* = Proceed with approved instruction without hesitation.
- *Go-Ahead* = Proceed with your message. (Only for communication, does not mean to start moving)

Phraseology

- *Hold* = Stop where you are.
- Hold Position = Stop where you are.
- Hold short of … = Proceed to but stop before reaching…..

Phraseology

- *Negative* = “No,” or “Permission not granted” or “That is not correct”.
- *No Delay* = Proceed with approved instruction without hesitation.
- *Proceed* = You are authorized to begin or continue moving.
- *Proceed as requested* = You are authorized to conduct the operation (ONLY as you requested it).

Phraseology

- *Read Back* = Repeat my message back to me.

- *Roger* = I've received all of your last transmission. (Should not be used to answer a question requiring a yes or no answer)

Phraseology

- *Say Again* = Used to request a repeat of the last transmission.

- *Stand By* = The controller or pilot must pause for a moment, usually to attend to other duties of a higher priority.

  (If the delay is lengthy, the caller should re-establish contact)

Phraseology

- *Unable* = Indicates inability to comply with a specific instruction, request or clearance.
- *Verify* = Request confirmation of information or instruction
- *Wilco* = I have received your message, understand it, and will comply with it.
- *Without Delay* = Proceed with approved instruction without hesitation.

Transmitting on Aviation VHF Radios

1. Verify correct frequency.
2. Confirm volume control level.
3. Monitor to ensure frequency is clear BEFORE transmitting.
4. Do not interrupt the controller who is waiting for response from aircraft.
5. Establish contact with ATC and wait for a response prior to making any request.
6. Acknowledge any instructions, READ BACK all “hold short” instructions.
7. Read back *ALL* instructions when applicable.
8. Monitor frequency closely for entire duration of operation.

AND MOST IMPORTANTLY...

Transmitting on Aviation VHF Radios

- Communicate clearly and concisely:
  - **WHO** you are calling
  - **WHO** you are
  - **WHERE** you are on the airport
  - **WHAT** you are requesting, or intending to do

Proper Radio Procedures

- Use appropriate frequency
- Turn up volume
- Transmit when frequency is clear
- Do not interrupt controller – pilot transmissions
- Acknowledge and read back all instructions
- Monitor frequency during entire operation
- Be clear and concise with your request

Radio Procedures for Towing Aircraft when Tower is OPEN

- Tower is OPEN from 0600-2245.
- Monitor Ground frequency 121.70 MHz
- Make request when frequency is clear
- WHO you are calling, WHO you are, WHERE you are, WHAT you intend to do
- Read-back all HOLD SHORT instructions
- Read-back *ALL* instructions when applicable
- Monitor frequency during entire operation

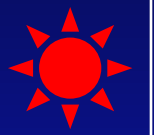
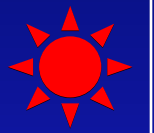
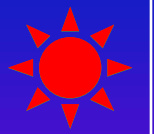
Radio Procedures for Towing Aircraft when Tower is CLOSED

- Tower is CLOSED from 2245-0600
- Monitor Common Traffic Advisory Frequency (CTAF) 119.30 MHz
- Announce advisory when frequency is clear
- Begin and end all transmissions with "*VAN NUYS TRAFFIC*"
- WHO you are calling, WHO you are, WHERE you are, WHAT you intend to do
- Monitor frequency during entire operation
- Report clear of movement area when operation is completed

Air Traffic Control Tower (ATCT) Light Gun Signals

- If you experience radio failure during your towing operation, look at the ATCT light gun signals

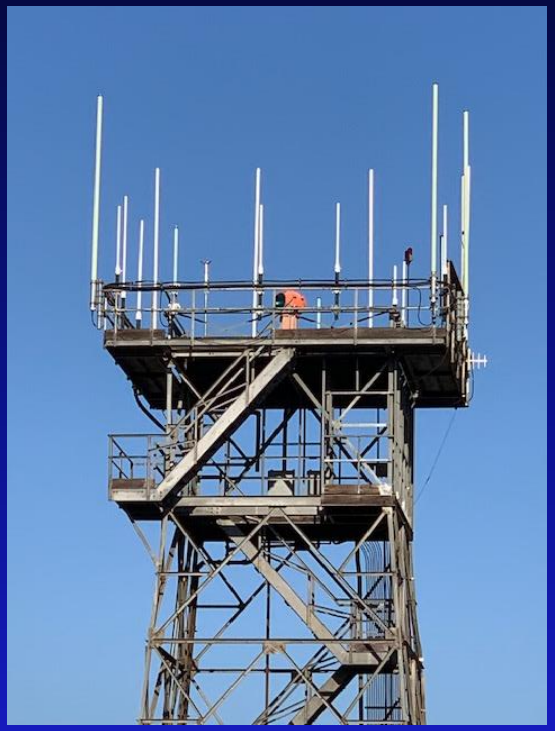
ATCT Light Gun Signals

Steady green		Clear to proceed
Steady red		**STOP!**
Flashing red		Clear the taxiway/runway
Flashing white		Return to starting point on airport
Alternating red and green		Exercise extreme caution

Airport Beacon

- Airport rotating beacons flash white and green light and operate from dusk till dawn or during periods of low visibility (bad weather). If the beacon is on during the day, this is a good indication that the Control Tower will instruct you to hold short of the ILS Critical Area.

- The VNY airport beacon is located on top of the old tower structure near taxiway A at A3.



Automatic Terminal Information Service (ATIS)

- Broadcasted on frequency 127.55
- Updated hourly
- Provides information about the airport such as:
  - Current weather conditions
  - Runways in use
  - Notices for hazards on the airfield such as construction areas, or closed / restricted areas.

Engine Maintenance Run-Ups at the Blast Fence

- Available 7:00 AM to 7:00 PM Local time for engine maintenance run-up
- Contact Airport Ops (818) 442-6506 for position assignment
- Traffic permitting
- Please position aircraft with engines aimed at the fence

"Leak Check" Procedures

- Engine Run-Ups are permitted on the ramp only if:
  - Approved by Airport Operations
    (call (818)-442-6506 for approval)
  - Not more than idle power setting
  - Run time does not exceed three minutes
  - Engine runs at higher power setting, or longer duration must use the Blast Fence

Aircraft Position Lights

- FAR 91.209 - *No person shall tow or move an aircraft on the AOA during hours of darkness or inclement weather without the position lights illuminated.*

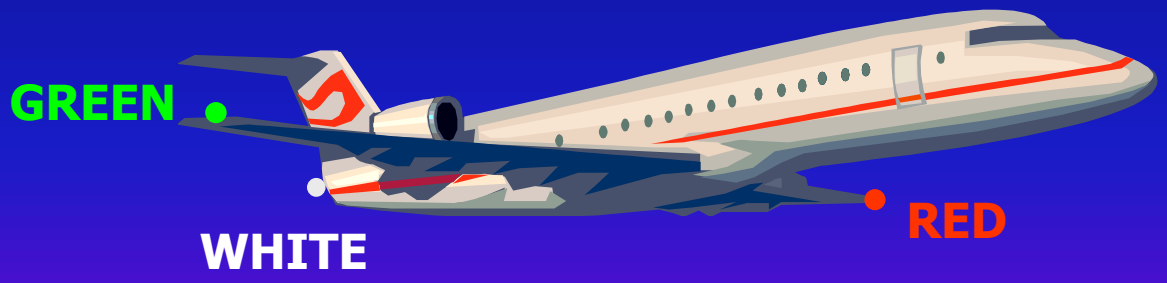
- Airport Operations may approve substitute lighting devices

Aircraft Position Lights

Right wing – **GREEN**

Left wing – **RED**

Tail – **WHITE**



Aircraft Position Lights

Standard Guidelines

- Review all pertinent information prior to conducting an airport surface movement operation.
- Use correct communication procedures and phraseology.
- If you are unsure of your position on the airfield, stop and ask for assistance.
- Continuously monitor the appropriate VHF frequency.
- If you are unsure of any issued instructions, ask for clarification.
- Report any deteriorating / confusing airfield signs, surface markings or lighting to VNY Airport Operations at (818)-442-6506 as soon as practical.

Review

- Phonetic alphabet
- Phraseology
- Transmitting on VHF radio
- CTAF procedures
- Aircraft position lights

General Airfield Driving Rules & Regulations

Section 4

VNY Airfield Driving Regulations

- The goal of the Motor Vehicle Operating Permit Program (MVOP) is to increase the safety, security and efficiency of airport operations by limiting access to the AOA.

MVOP Permit & Placards

- ALL vehicles on the AOA are required to have an operating permit issued by LAWA and must display the associated decal.
- ALL vehicles on the AOA must have a company logo on BOTH front door panels.
- Vehicle must be in satisfactory mechanical condition.

MVOP

- ALL drivers operating a vehicle on the AOA are required to have a current LAWA issued drivers permit with the appropriate privileges and a valid California drivers license in their possession while driving on the AOA.

MVOP

- ALL drivers operating a vehicle on the AOA are required to be familiar with and comply with all VNY rules and regulations with regard to conducting such operations.

MVOP

- Operating a vehicle on the AOA is a privilege that may be revoked by the airport manager or his / her designee at any time for serious or frequent violation of VNY MVOP and / or Rules and Regulations.

MVOP Enforcement

- Airport Operations and Airport Police staff are authorized to cite drivers and order vehicles / drivers off of the AOA.

- Airport Police officers also have the authority to make arrests and impound vehicles.

MVOP Insurance Requirements

- The required insurance must be on file with LAWA Risk Management prior to being granted a vehicle permit/decal.

- Should the required insurance expire or become “Not Approved” for any reason after permit issuance, the decal will be void and AOA access denied to all vehicles and driver’s previously covered by that policy/company until the insurance is returned to an “Approved” status.

Incident Reporting

- ANY person involved in, or observing, any incident/accident involving aircraft, vehicles, or property MUST IMMEDIATELY contact Airport Operations at (818)-442-6506
- Remain in a safe location at the scene until authorized to leave by Airport Operations.
- Following an incident / accident, no involved vehicle, aircraft or property may be moved until authorized to do so by Airport Operations.

Airfield Security

- Allowing another driver to enter the airfield through a gate behind you (“piggybacking”) is considered a serious violation of MVOP. A citation will be issued and you may lose your driver’s permit.

Driving on the Service Road and Ramp areas

- Use of vehicles on the AOA must be limited to the minimum necessary.
- All general vehicle operations on the AOA must be conducted on the service road as designated.
- Be aware of jet blast, prop / rotor wash and other potential hazards.
- Do not drive under any portion of an aircraft.

  Except for personnel who are actively servicing the Aircraft.

Driving on the Service Road and Ramp areas

- During hours of darkness and / or reduced visibility, use your low beam headlights. NEVER use your high beams or drive with only parking lights on and always be aware of the effect of lights on a flight crew's vision.

- Pedestrians, motorcycles, bicycles, Segway's and scooters are prohibited on the AOA.

Driving on the Service Road and Ramp areas

- Do not stop or park in any unsafe location or ANY area not specifically designated as a parking area.
- **Towing or transporting aircraft in any way on the service roads is prohibited!**
- Disabled vehicles on the AOA must be immediately reported to Airport Operations. Drivers should remain with the vehicle, attempt to delineate the vehicle with cones or hazard markers, and must make arrangements to have the vehicle promptly removed from the AOA.
- Report any hazard or obstruction to traffic to Airport Operations (818)-442-6506 IMMEDIATELY.

Vehicle Speed Limits

- 20 MPH on service roads
- 10 MPH behind blast fence
- 5 MPH on ramps
- That which is reasonable and prudent with traffic, lighting and weather conditions taken into consideration.

Airfield Right-of-way

- All vehicles shall yield the right of way at all times to aircraft being taxied, hovered, towed or otherwise moved in any way.
- All vehicles shall yield the right of way to emergency equipment responding to an emergency.
- ARFF trucks, Fire trucks, Operations and Police vehicles are all included as “emergency equipment”.
- **AIRCRAFT HAVE THE RIGHT-OF-WAY AT ALL TIMES!**

Airfield Right-of-way

- Always yield to aircraft and emergency vehicles.

Airfield Right-of-way

- Use caution for and yield to aircraft that are crossing the service road.

Vehicle Escorts

- Non permitted vehicles requiring access beyond the tenant “RED” leasehold boundary line *MUST* be escorted by Airport Operations or Airport Police.

- MVOP permit holders are allowed to escort a maximum of two (2) vehicles at one time.

Fuel Spills

- ***ALL*** fuel spills must be reported to Airport Operations, (818) 442-6506, regardless of type or amount.

- Fuel spills greater than ten (10) gallons of Jet-A and ***ALL*** spills of AVGAS or automobile gasoline, regardless of amount shall also be reported to L.A.F.D. (818) 756-8635.

Review

- General MVOP Rules & Regulations
- Incident reporting
- Airfield security
- Operational Safety Guidelines
- Airfield right-of-way
- Non permitted vehicle escorts
- Fuel spills

Conclusion

- Use safe, accepted procedures.
- Follow standard guidelines.
- When in doubt…ASK!!
- Forethought, proper planning and application of established procedures and continuous SITUATIONAL AWARENESS lead to safety.

Please forward questions, comments and/or other input to:

Airport Operations
Van Nuys Airport
(818) 442-6506
VNYMVOP@lawa.org