SFAR 93 and Minimum Altitudes

Stuart W. Goering
FAA Aviation Safety Counselor

You Make the Call – Too Low or Just Fine?

Applicable Regulations

- FAR 91.119 – Defines minimum safe altitudes for aircraft (special rules for helicopters)
- FAR 91.129 (e)(3) – Minimum altitudes for operations in Class D airspace (applies in Class C by virtue of FAR 91.130 (a))
- SFAR 93 – Special flight rules for Anchorage International, Lake Hood, Merrill, Bryant and Elmendorf, and surrounding areas

FAR 91.119

Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.

(b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

(d) Helicopters. Helicopters may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the Administrator.

Necessary?

- Being in the pattern isn't enough: NTSB determined that a crosswind turn over a house at 200 ft. AGL was not "necessary," even though the pilot turned at that point to avoid possible opposite direction aircraft on final.
- Departure turns over airport buildings can violate the rule.
- Compliance with ATC instructions is not enough. PIC is responsible for regulatory compliance; refuse the clearance!

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“Congested Areas”

- Not defined by FAR Part 1 or FAR Part 91
- NTSB has ruled that as few as 20 houses in a residential area bounded by .5 mile by .66 mile (211 acres) is “congested.” That’s 10.55 acres per house!

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FAR 91.129 (e)(3)

Operations in Class D airspace.

General. Unless otherwise authorized or required by the ATC facility having jurisdiction over the Class D airspace area, each person operating an aircraft in Class D airspace must comply with the applicable provisions of this section.

…

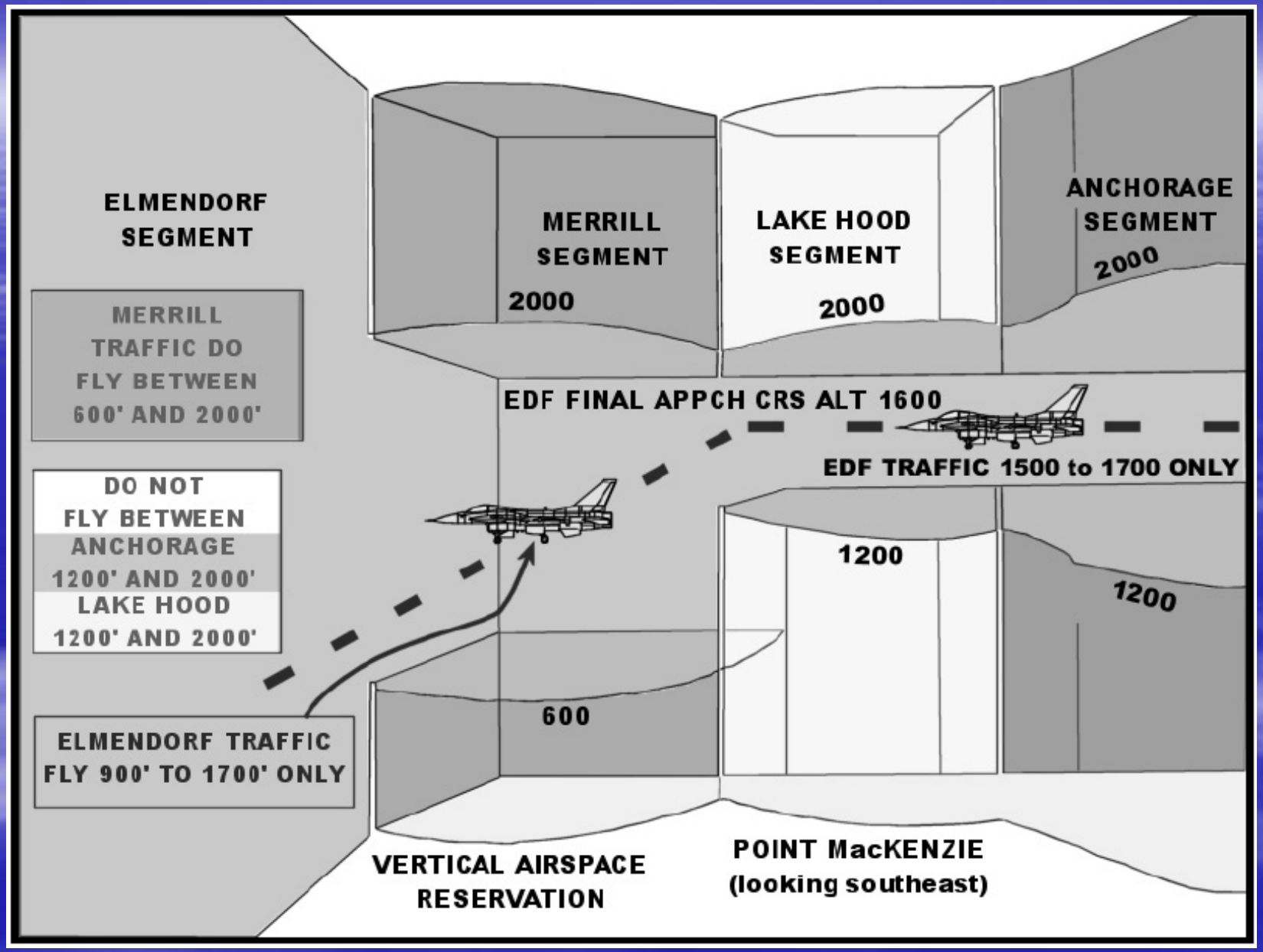
(e) Minimum Altitudes. When operating to an airport in Class D airspace, each pilot of --

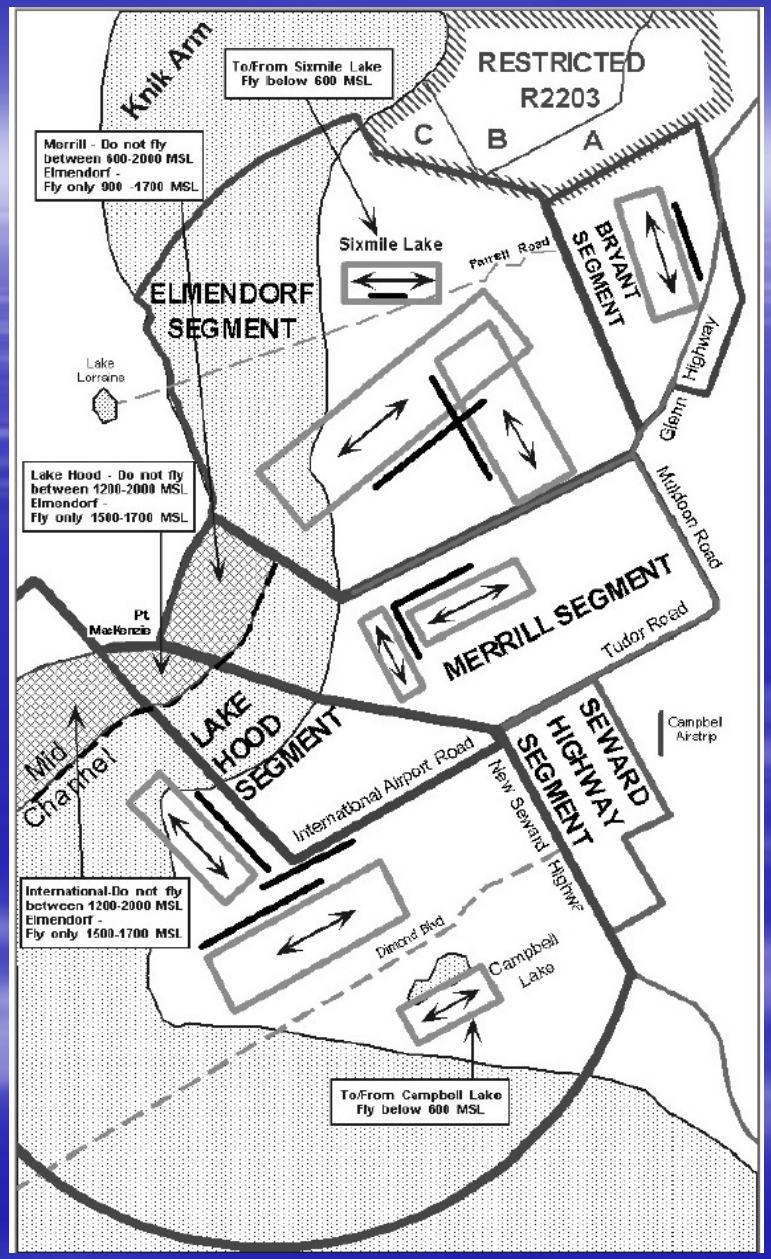
…

(3) An airplane approaching to land on a runway served by a visual approach slope indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing. Paragraphs (e)(2) and (e)(3) of this section do not prohibit normal bracketing maneuvers above or below the glide slope that are conducted for the purpose of remaining on the glide slope.

SFAR 93

- Specifies altitudes (or altitude ranges) for transitions and Knik Arm crossing in the segments





Seward Segment

(a) Each person operating an airplane in the Seward Highway segment shall operate that airplane at an altitude of at least 1,000 feet MSL unless maneuvering for a safe landing requires further descent.

(b) Each person operating an aircraft at or below 1,200 feet MSL that will transition to or from the Lake Hood or Merrill segment shall contact the appropriate ATCT prior to entering the Seward Highway segment. All other persons operating an airplane at or below 1,200 feet MSL in this segment shall contact Anchorage Approach Control.

(c) At all times, each person operating an aircraft above 1,200 MSL shall contact Anchorage Approach Control prior to entering the Seward Highway segment.

Eastside Overflight

- Southbound - 2,500 ft. MSL via Eagle River Bridge, direct Moose Run, then direct Potter
- Northbound - 3,500 ft. MSL via Potter, direct Moose Run, then direct Eagle River Bridge

SFAR 93

- Specifies altitudes (or altitude ranges) for transitions and Knik Arm crossing in the segments
- Specifies minimum segment altitudes (may vary depending on the airspeed of the aircraft)

Minimum Segment Altitudes

Aircraft Operating at greater than 105 knots

- International – 1,600 ft.
- Lake Hood – 600 ft.
- Merrill – 1,200 ft.
- Elmendorf – 1,200 ft.
- Bryant – 1,000 ft.

Aircraft Operating at less than 105 knots

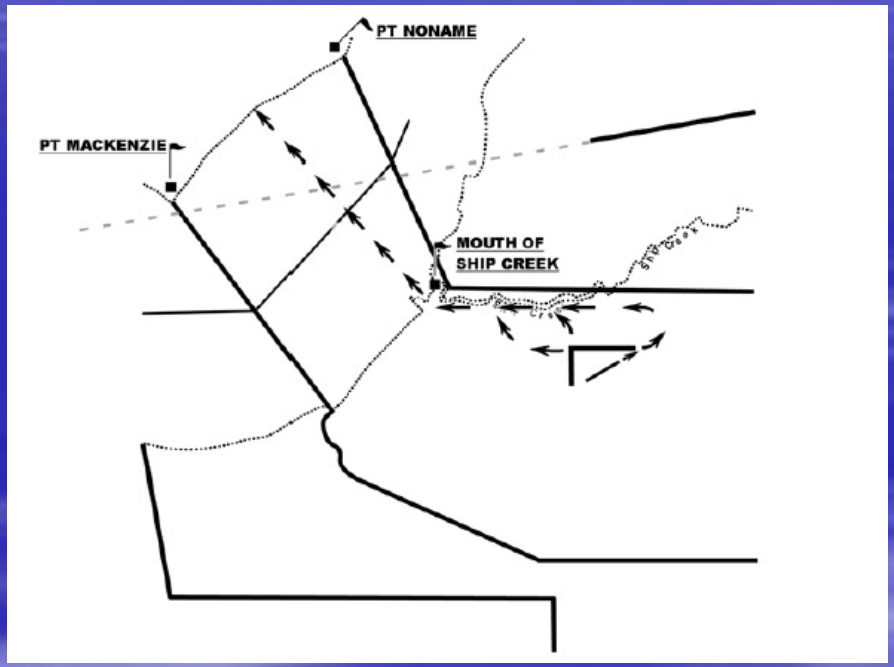
- International – 900 ft.
- Lake Hood – 600 ft.
- Merrill – 900 ft.
- Elmendorf – 800 ft.
- Bryant – 1,000 ft.

SFAR 93

- Specifies altitudes (or altitude ranges) for transitions and Knik Arm crossing in the segments
- Specifies minimum segment altitudes (may vary depending on the airspeed of the aircraft)
- Establishes arrival and departure procedures, which may contain altitude instructions

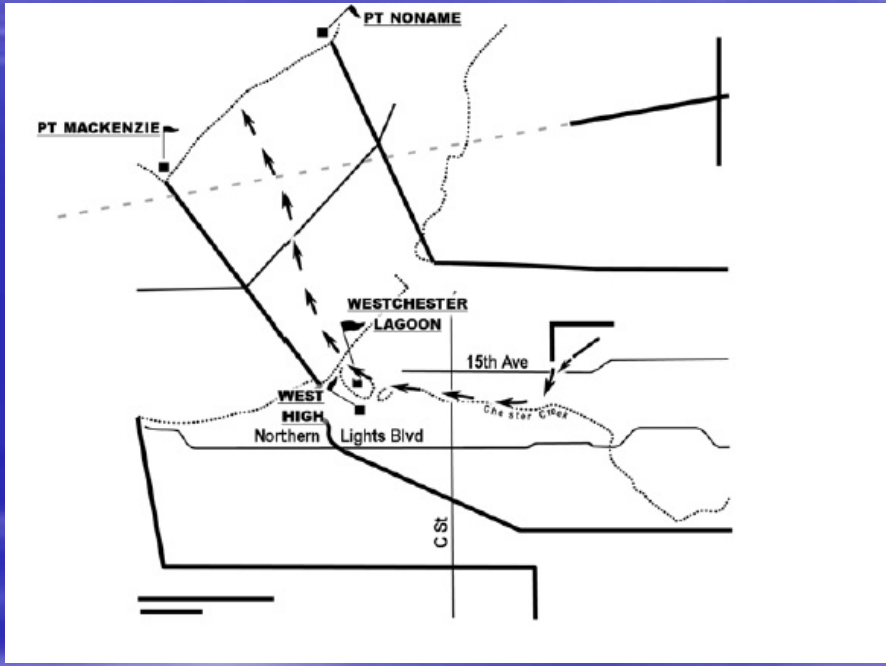
Ship Creek Departure

ALL AIRCRAFT: Cross Knik Arm at or below 600' MSL or at or above 2,200' MSL. (If unable 2,200' MSL by mid-channel, advise ATC.) Remain within Merrill Class D airspace.



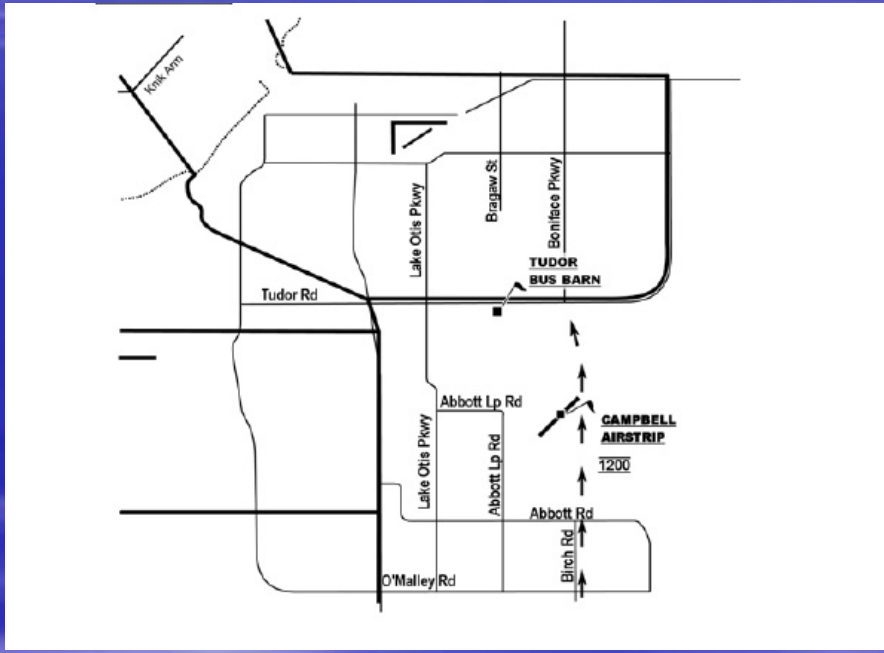
Chester Creek Departure

ALL AIRCRAFT: Cross Knik Arm at or below 600' MSL in accordance with 14 CFR Part 93. Remain within Merrill Class D airspace.



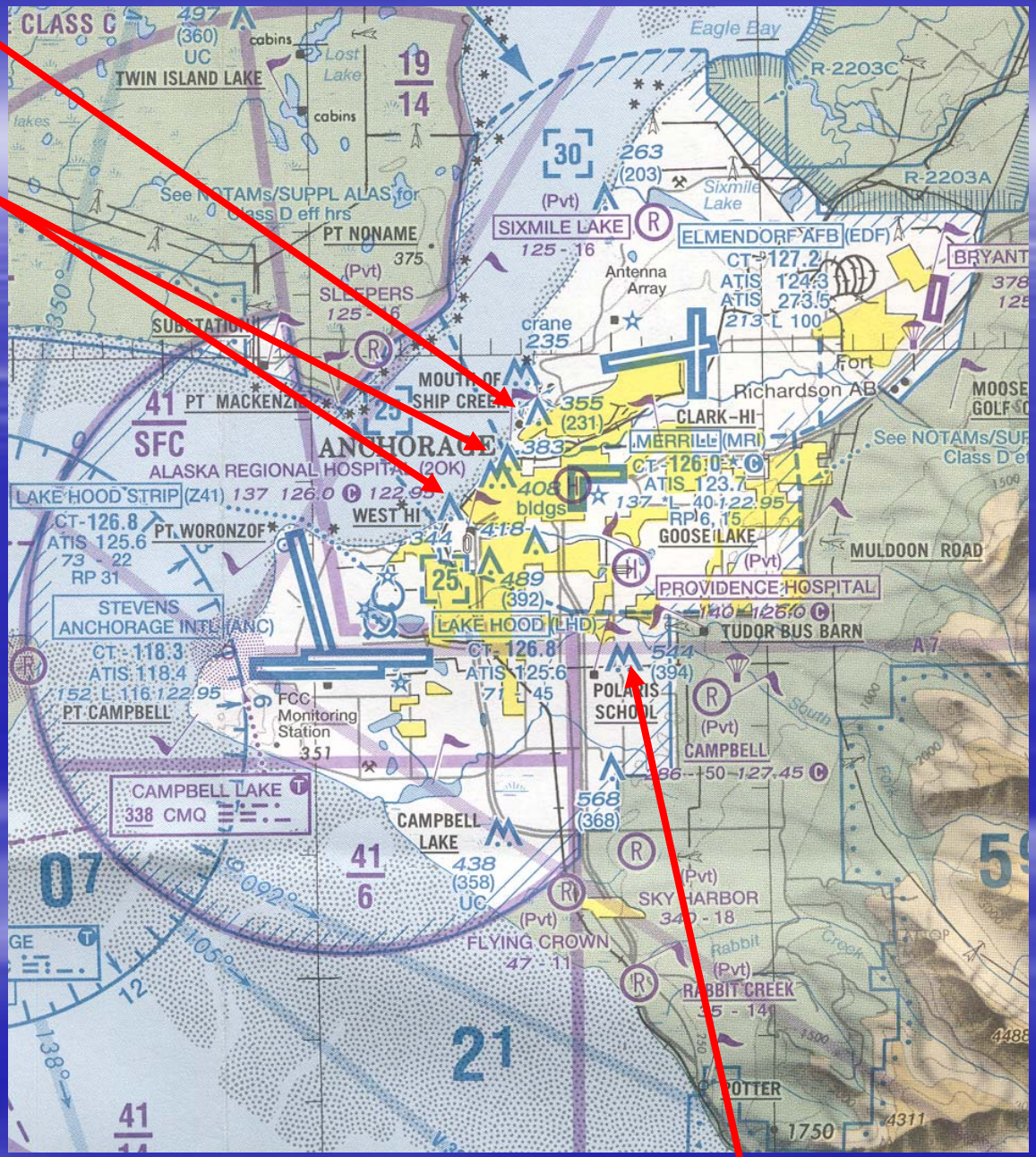
Potter Arrival

ALL AIRCRAFT: Proceed inbound one mile east of Abbott Loop Road to Campbell Airstrip. Cross Campbell Airstrip at 1,200' MSL then direct to the Boniface/Tudor Road intersection or as otherwise directed by ATC for traffic pattern entry.



Problem Areas (Merrill)

- Ship Creek (Low) departure
- Chester Creek departure
- Right downwind runway 24 (“Report Ship Creek”)
- Left base runway 33/left downwind runway 24 (“Report West High”)
- Straight-in runway 6 (“Report downtown shoreline”)
- Straight-in runway 33 (“Report Polaris”)
- Extended downwind for runway 6
- Gravel runway arrivals/departures



Special Cases

- Special VFR
- Emergencies
- IFR Approaches – must remain above MDA or DH, “unless the aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.”

Your Answer – Too Low or Just Fine?

Just Fine

This aircraft is on short final to runway 33 at Merrill Field

Recommendations

- Be familiar with minimum segment altitudes in the segment(s) you will be using
- Refuse ATC instructions that will not provide required AGL altitudes
- Climb at V_y until minimum segment altitude on departure, go around or missed approach

More Recommendations

- Avoid low-level SVFR arrivals, unless no alternate is available
- Avoid low-level SVFR departures entirely; use IFR instead

Recommendations (Merrill)

- Use Ship Creek (High), City High, Potter and Muldoon departures
- Cross Knik Arm inbound above 2,000 ft. if possible, or get an altitude deviation to cross at minimum segment altitude
- Climb to at least minimum segment altitude when past mid-channel inbound after crossing below 600 ft.

More Recommendations (Merrill)

- Remain at or above minimum segment altitude until past the point of intended touchdown on downwind, or until visual glide slope intercept on straight-in
- Remain at or above 1,500 ft. MSL until past West High for left downwind runway 24
- Remain at or above 1,500 ft. MSL until glide slope intercept on straight-in to Runway 6

Conclusion

- Public awareness of low-flying aircraft is at an all-time high due to 9.11
- Pilots can improve public perception of general aviation by avoiding unnecessary low altitude operations and over flights of sensitive locations

Where can I get …?

- This presentation (and other aviation information) – http://goeringlaw.com/Aviation_Resources.html
- The Anchorage Terminal Area Pilot Bulletin – http://www.alaska.faa.gov/ata
- NTSB Decisions – http://www.ntsb.gov/
- Federal Aviation Regulations online – http://www.faa.gov/avr/arm/index.cfm