

## **50-18.2 Airport Overlay (A-O)**

---

The A-O district is intended to protect the lives and property of users of Duluth International Airport and Sky Harbor Municipal Airport from hazards and to protect the lives and property of residents living in the vicinity of the airports from risks and impacts of airport-related activities. The purpose of this district is also to prevent and, when possible, to minimize, reduce or remove hazards that interfere with the safe operation of the respective airports.

### **A. Purpose and authority.**

The council, pursuant to the provisions and authority of Minnesota Statute Sec. 360.063, hereby finds and declares that:

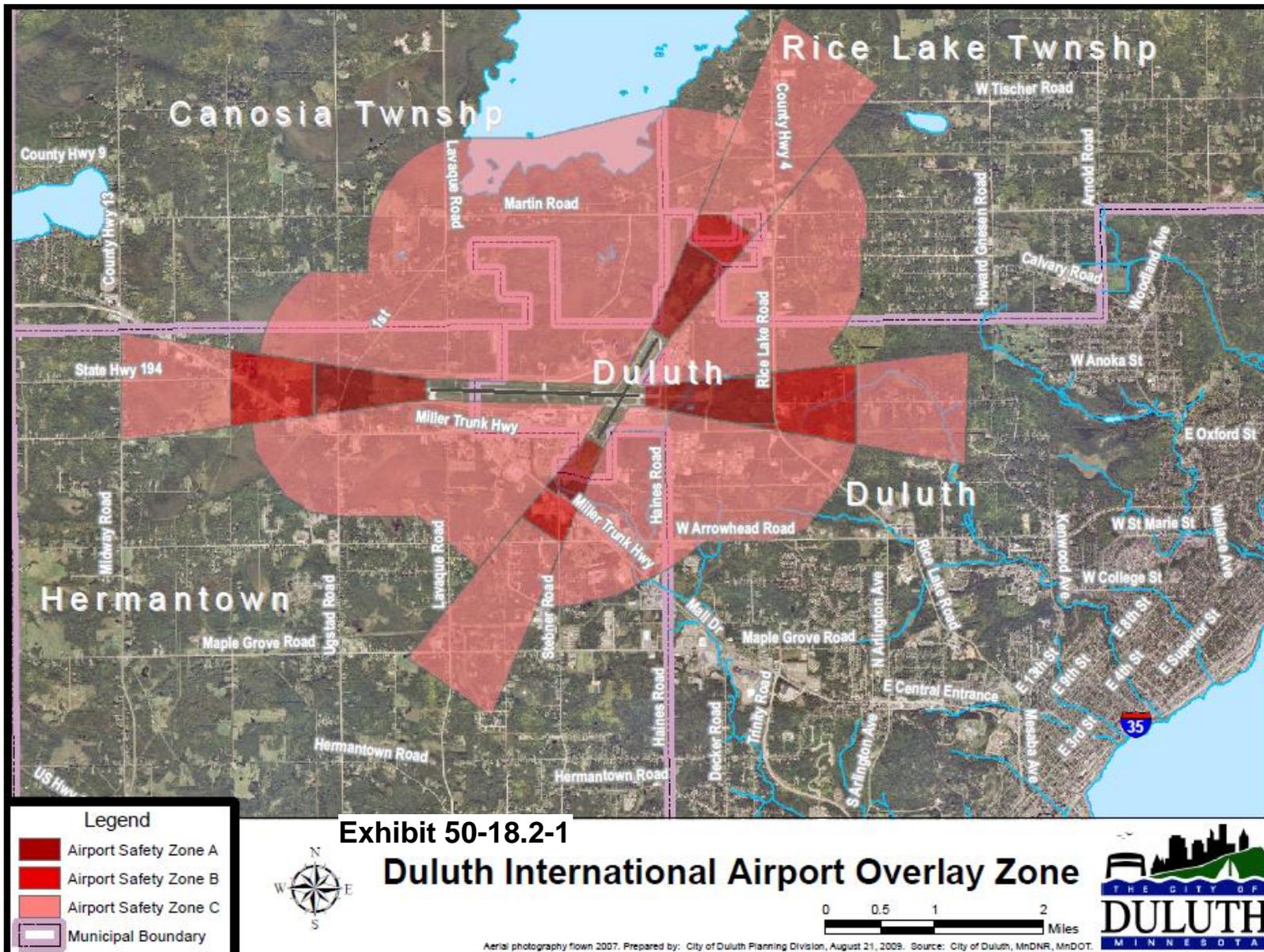
1. Airport hazards endanger the lives and property of users of Duluth International Airport and the Sky Harbor Municipal Airport, and property or occupants of land in their vicinity, and may reduce the size of the area available for the landing, takeoff and maneuvering of aircraft, thus tending to destroy or impair the utility of the airports and the public investments they represent;
2. The creation or establishment of an airport hazard is a public nuisance and an injury to the region served by both airports;
3. For the protection of the public health, safety, and welfare, it is necessary to prevent the creation or establishment of airport hazards;
4. The prevention of these airport hazards should be accomplished, to the extent legally possible, by the exercise of the police power without compensation;
5. The prevention of the creation or establishment of airport hazards, and the elimination, removal, alteration mitigation, or marking and lighting of existing airport hazards are public purposes;

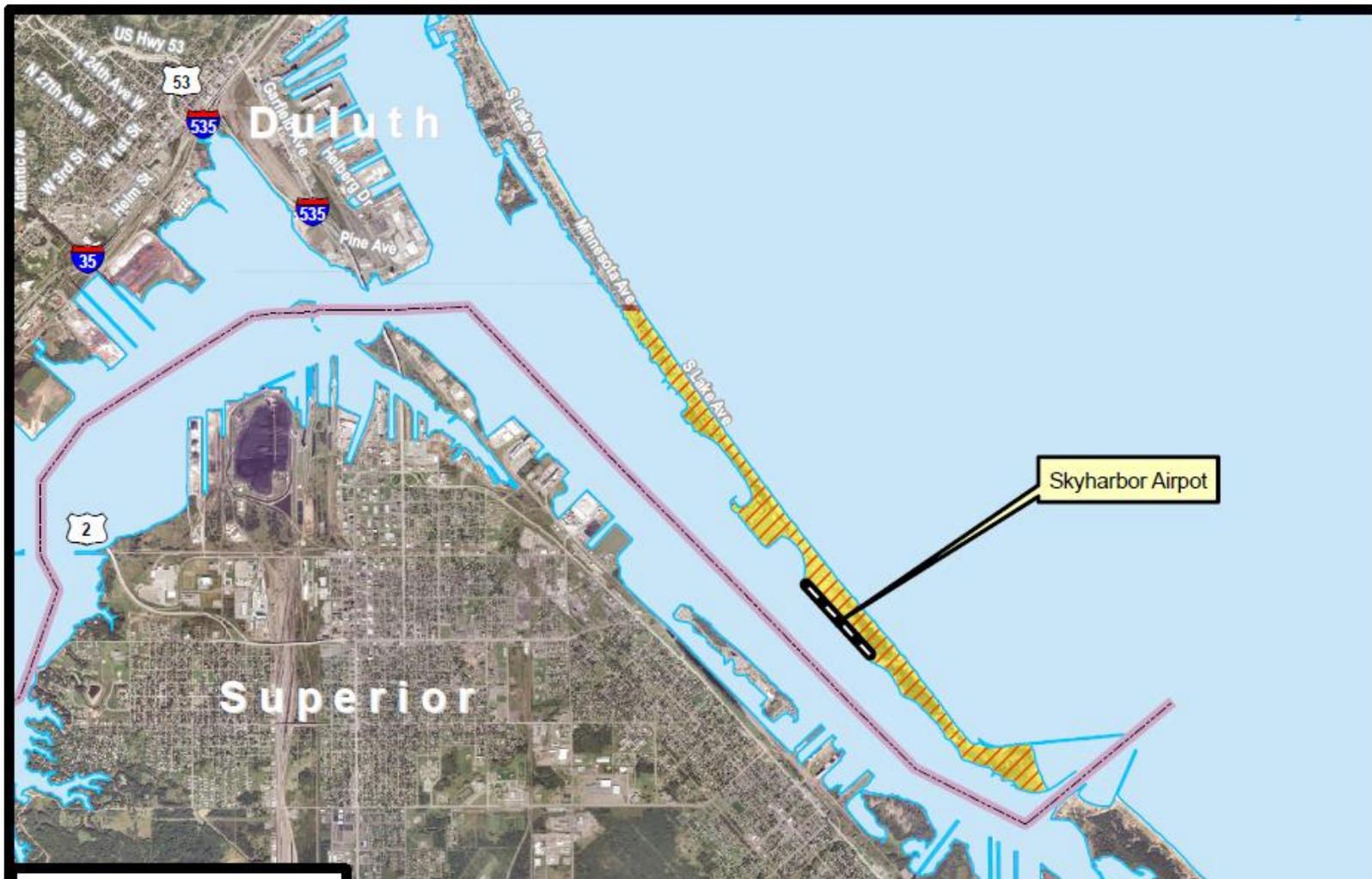
### **B. Airport zoning ordinance incorporated.**

This Section 50-18.2 incorporates the Duluth International Airport Zoning Ordinance, as amended, created by the Duluth Airport Authority and the Duluth International Airport zoning board under the authority of the Laws of Minnesota 1969, Chapter 577, and MSA 360.061 to 360.074, as amended. Any changes to this Section 50-18.2 must comply with the requirements of MSA 360.061 to 360.074, as amended;

### **C. Land affected.**

The land affected by this Section 50-18.2 is shown on exhibits 50-18.2-1 and 2;



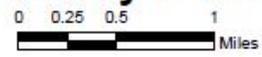


**Legend**

-  Land Use Safety Zoning
-  Air Space Obstruction Zoning
-  Municipal Boundary



**Exhibit 50-18.2-2**  
**Skyharbor Airport Overlay Zone**

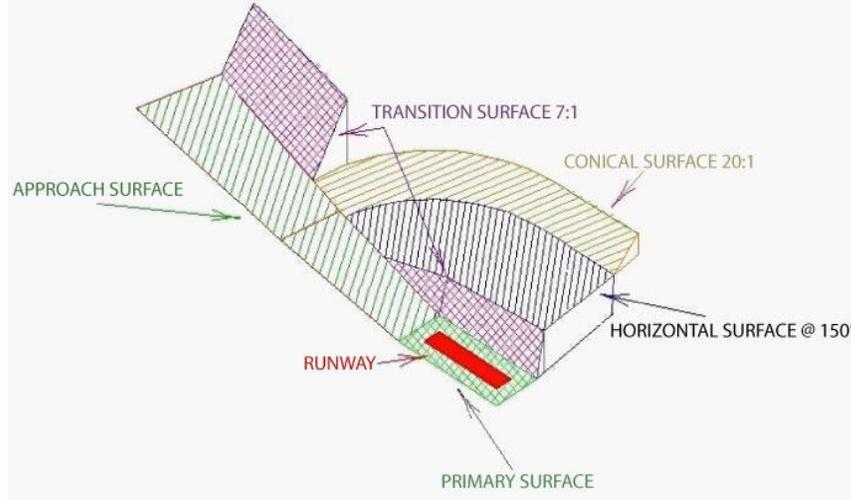


Aerial photography from 2007. Prepared by: City of Duluth Planning Division, August 21, 2009. Source: City of Duluth, MnDNR, MnDOT.

D. Air space obstruction zones.

1. Air space zones.

In order to carry out the purpose of this Section, the following air space zones are hereby established: primary zone, horizontal zone, conical zone, approach zone, and transitional zone;



2. Primary zone.

All land that lying directly under an imaginary primary surface longitudinally centered on a runway and (a) extending 200 feet beyond each end of Sky Harbor Municipal Airport Runway 14-32 and Duluth International Airport Runways 9-27, 3-21 and 13-21; and (b) coinciding with each end of Runways 14-32, 9-27, 3-21 and 13-21. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:

- (a) 1,000 feet for Duluth International Airport Runways 9-27 and 3-21;
- (b) 500 feet for Sky Harbor Municipal Airport Runway 14-32;

3. Horizontal zone.

All land lying directly under an imaginary horizontal surface 150 feet above the established airport elevation, or a height of 1,580 feet above mean sea level for Duluth International Airport and 760 feet above mean sea level for Sky Harbor Municipal Airport, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

- (a) 10,000 feet for Duluth International Airport Runway 9-27 and 3-21;
- (b) 6,000 feet for Sky Harbor Municipal Airport Runway 14-32;

4. Conical zone.

All land lying directly under an imaginary conical surface extending upward and outward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet as measured radially outward from the periphery of the horizontal surface;

5. Approach zone.

All land lying directly under a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to the end of a runway based on the type of approach available or planned for that runway.

- (a) The inner edge of the approach surface is the width as the primary surface and it expands uniformly to a width of: (i) 1,250 feet for that end of a utility runway with only visual

approaches; (ii) 1,500 feet for that end of a runway other than a utility runway with only visual approaches; (iii) 2,000 feet for that end of a utility runway with a nonprecision instrument approach; (iv) 3,500 feet for that end of a nonprecision instrument runway other than utility, having visibility minimums greater than three-fourths of a statute mile; (v) 4,000 feet from that end of a nonprecision instrument runway, other than utility, having a nonprecision instrument approach with visibility minimums as low as three-fourths statute mile; and (vi) 16,000 feet for precision instrument runways;

(b) The approach surface extends for a horizontal distance of (i) 5,000 feet at a slope of 20:1 for all utility and visual runways; (ii) 10,000 feet at a slope of 34:1 for all nonprecision instrument runways other than utility, and (iii) 10,000 feet at a slope of 50:1 with an additional 40,000 feet at a slope of 40:1 for all precision instrument runways;

(c) The outer width of an approach surface to an end runway will be that width prescribed in this subsection 5 for the most precise approach existing or planned for that runway end;

6. Transitional zone.

All land lying directly under surfaces that extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7:1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface that project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline;

7. Height restrictions.

Except as necessary and incidental to airport operations, no structure or tree shall be constructed, altered, maintained or allowed to grow in any air space obstruction zone so as to project above any of the imaginary air space surfaces described in subsections 1 through 6. Where an area is covered by more than one height limitation, the more restrictive limitation shall apply;

8. Traverse ways.

For the purpose of determining height limits in this Section 50-18.2, traverse ways shall be increased in height by 17 feet for interstate highways; 15 feet for all other public roadways; ten feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for private roads; 23 feet for railroads; and for waterways and all other traverse ways not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it;

**E. Land use safety zoning.**

1. Safety zone boundaries.

Safety zones are created to protect the surrounding community and to assist aircraft in the event of emergency landings. Safety zones seek to limit the population and building density to protect life and property in case of accident. In order to carry out the purpose of this Section to restrict those uses that may be hazardous to the operational safety of aircraft operating to and from the Duluth International Airport or Sky Harbor Municipal Airport, the following land use safety zones are established:

2. Safety Zone A.

All land in that portion of the approach zones of a runway, as defined in subsection 50-18.2.D, that extends outward from the end of primary surface a distance equal to 2/3 of the planned length of the runway, which distance is:

- (a) 7,435 feet for Duluth International Airport runway 9-27;
- (b) 5,415 feet for Duluth International Airport runway 3-21;
- (c) 2,230 feet for Sky Harbor Municipal Airport runway 14-32;

3. Safety Zone B.

All land in that portion of the approach zones of a runway, as defined in subsection 50-18.2.D that extends outward from Safety Zone A a distance equal to 1/3 of the planned length of the runway, which distance is:

- (a) 3,718 feet for Duluth International Airport runway 9-27;
- (b) 2,708 feet for Duluth International Airport runway 3-21;
- (c) 1,120 feet for Sky Harbor Municipal Airport runway 14-32;

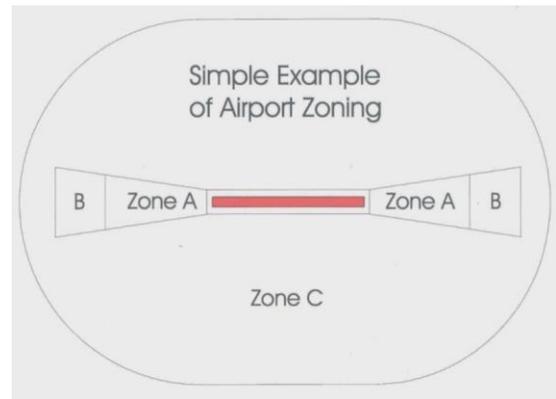
4. Safety Zone C.

All that land that is enclosed within the perimeter of the horizontal zone, as defined in subsection 50-18.2.D, and that is not included in Safety Zone A, Safety Zone B, or the exempted parcels referred to in Section 50-18.2.D.5;

**F. Land use restrictions.**

1. General.

No use shall be made of any land in any land use safety zone that creates or causes interference with the operations of radio or electronic facilities on the airport or with radio or electronic communications between the airport and aircraft, make it difficult for pilots to distinguish between airport lights and other lights, results in glare in the eyes of pilots using the airport, impairs visibility in the vicinity of the airport or otherwise endangers the landing, taking off or maneuvering of aircraft;



2. Zone A.

Areas designated as Zone A shall contain no buildings, temporary structures, exposed transmission lines, or other similar above ground land use structural hazards, and shall be restricted to those uses that will not create, attract or bring together an assembly of more than 100 persons on the property. Permitted uses may include but are not limited to: agriculture (seasonal crops), horticulture, animal husbandry, raising of livestock, wildlife habitat, light outdoor recreation (non spectator), cemeteries and automobile parking;

3. Zone B.

Areas designated as Zone B shall be restricted in use as follows:

- (a) Each use shall be on a site of not less than three acres;

(b) Each use shall not create, attract or bring together a site population that would exceed 15 times that of the site acreage. Compliance with this subsection shall be determined by multiplying the number of required parking spaces for each use on the site by the vehicle occupancy rates for each use on the site, as provided in Table 50-18.2.-1;

TABLE 50-18.2-1: Vehicle Occupancy Rates	
Land Use	Vehicle Occupancy Rate
Industrial / Storage / Transportation	1.2
Educational	1.2
Health Care	1.7
Retail Store	1.5
Restaurant / Community and Cultural Facility / Recreational	2.0

**Example:** The site population for a 1,500 sq. ft. restaurant is calculated as follows: 15 (i.e., 1 parking space per 100 sq. ft) X 2.0 (i.e., vehicle occupancy rate) = 30 people. Therefore, the site would need to be at least 2 acres in size to meet the 15 people / acre maximum site population limit.

(c) Each site shall have no more than one building plot upon which any number of structures may be erected;

(d) A building plot shall be a single, uniform and non-contrived area, whose shape is uncomplicated and whose area shall not exceed the following minimum ratios with respect to the total site area:

TABLE 50-18.2-2: Ratio of Site Area to Building Area		
Site area	Ratio of site area to building plot area	Building plot area (sq. ft)
3.00 – 3.99 acres	12:1	10,900
3:00 – 5.99 acres	10:1	17,400
6:00 – 9.99 acres	8:1	32,700
10:00 – 19.99 acres	6:1	72,600
20:00 acres or more	4:1	218,000

(e) The following uses are specifically prohibited in Zone B: churches, hospitals, schools, theaters, stadiums, hotels, motels, trailer courts, campgrounds and other places of frequent public or semi public assembly;

4. Zone C.

Zone C is subject only to height restrictions set forth in subsection D above and to the general restrictions contained in subsection F.1 above;

5. Exemptions for established residential neighborhoods.

Land uses that existed as of June 18, 1988, for the Duluth International Airport, and as of January 1, 1994, for Sky Harbor Municipal Airport, and that were established residential neighborhoods in built-up urban areas on those dates, are subject to the height restrictions of subsection D above, but are not subject to the additional restrictions in subsections F.2 or 3 above. Land uses that came or come into existence after those dates, are treated as though they were or are not in a listed established residential neighborhood and are subject to the restrictions in subsections F.2 or 3 above, as applicable based on the location of the property. (Ord. No. 10044, 8-16-2010, § 6.)