

1.0 GENERAL INFORMATION

1.1 Location

The facility covered under this SWPPP is DAL. DAL is owned by the City of Dallas and is operated under the direction of the DOA. DAL is located 7 miles north of downtown Dallas within the City of Dallas, Dallas County, Texas. The general vicinity of the airport is shown on *Figure 1-1*. Pertinent location information includes:

Latitude:	32° 50' 49.61" N
Longitude:	96° 51' 06.38" W
Area:	Approximately 1,300 acres
Elevation:	487 feet above Mean Sea Level (MSL)

1.2 Facility Information

DAL is a commercial and general aviation airport located within the territorial jurisdiction of the City of Dallas, Texas. The airport hosts several major carriers. The airport serves approximately 5 million passengers annually, making it one of the largest municipal airports in the country. DAL serves the citizens of Dallas, Fort Worth, and surrounding areas with access to the National Air Transportation System.

The general layout of DAL is shown in *Figure 1-2*. DAL has three runways (RWYs): RWY 13L/31R (length: 7,753 feet), RWY 13R/31L (length: 8,800 feet), and RWY 18/36 (length: 6,149 feet). The width of all runways is 150 feet. DAL is capable of handling routine landings of aircraft weighing 350,000 pounds (lbs). DAL has approximately 170,000 aircraft operations annually.

In addition to the DOA facilities, there are a number of tenants, subtenants, and contractors operating at the airport. In conjunction with DOA, they provide a variety of ground support and aviation-related services. Services provided at DAL by DOA and tenants et al, include aircraft fueling, aircraft re-conditioning, maintenance, washing, hangar space rental, charter services, ground vehicle or fleet vehicle rental, fueling, and washing services; and shipping air freight/cargo operations. Fire-fighting response is

accomplished by City of Dallas Fire Station #21, dedicated to runway emergencies, and located inside the airport on Love Field Drive. *Exhibit 1*, in the back of this report, presents the site map for DAL.

1.3 Climatic Information

DAL is located within the city limits of Dallas, Texas, in central Dallas County. The weather is typical of areas in north central Texas. Dallas County has a warm to temperate, humid, continental climate with a prevailing south wind. The summers are long and hot with an average daily maximum temperature of 94.9°F. Winters are short and mild, characterized by clear, cold weather with an average high temperature of 56.8°F, and an average daily low temperature of 35.3°F. Occasional freezes occur. Rainfall is uniformly distributed throughout the year, with a slight peak in precipitation during the spring months due to frequent thunderstorm activity. Annual precipitation averages approximately 34 inches; seasonal snowfall average is 3.1 inches and occurs on an average of 1.1 days per annum (U.S. Department of Agriculture).

1.4 Watershed Characteristics

DAL occupies approximately 1,256 acres in the Trinity River Basin, near Bachman Lake. The total drainage area of the Trinity River Basin is 17,969 square miles, encompassing 34 counties. The headwaters of the Trinity River are formed by four forks—the West Fork, Clear Fork, Elm Fork and East Fork (TCEQ).

The northwest portion of DAL drains into Bachman Lake. Noble Branch drains from Bachman Lake and traverses just west of the airport to the Elm Fork of the Trinity River. DAL is in flood hazard Zone X, an area of minimal flooding well outside of the 100-year floodplain. For a location of DAL with respect to the existing floodplain, see *Figure 1-3*. The southwestern portion of the facility drains to the Dallas municipal separate storm sewer system (MS4) which discharges into either Knight's Branch or unnamed tributaries of the Elm Fork of the Trinity River.

1.5 1.5 Airport Drainage Basins

The airport has an extensive storm sewer system that collects and removes storm water from the terminals, parking lots, aircraft ramps, taxiways, and runways. There are nineteen (19) relatively distinct drainage basins that are depicted in *Exhibit 1*.

The topography of the airport is relatively flat. Topographical elevations in the area of DAL range from 450 feet MSL, along the northwestern boundary of the airport adjacent to Bachman Lake, to 462 feet MSL along the western and southwestern boundaries along Denton Drive, to 500 feet MSL along the eastern boundary adjacent to Lemmon Avenue. The official elevation of the airport is 487 feet MSL. Drainage Basins A through L all drain into Bachman Lake, which is located along the northwestern property boundary. Bachman Lake empties into the Elm Fork of the Trinity River. The remaining drainage basins (M through S) all drain into the MS4, which in turn discharge either into Knight's Branch or unnamed tributaries of the Elm Fork of the Trinity River.

1.5.1 Drainage Basin A

Drainage Basin A collects storm water runoff along Lemmon Avenue between Lovers Lane and Bachman Lake, and the majority of this basin is either paved over or developed. In addition, this basin provides drainage for some of the hangar facilities located along Lemmon Avenue, including several parking areas and chemical and material storage areas. Drainage Basin A occupies approximately 38 acres within the airport property boundary and drains into Bachman Lake via Outfall No. 1.

1.5.2 Drainage Basin B

Drainage Basin B drains approximately 22 acres of the airport, which includes storm water runoff from the north end of Runway (RWY) 18/36 and the blast fence. In addition, this basin collects storm water runoff from aircraft storage, maintenance, and fueling facilities. Roughly half of this basin consists of paved or developed areas. Storm water leaves the airport property through Outfall No. 2 and discharges into Bachman Lake.

1.5.3 Drainage Basin C

Drainage Basin C is entirely undeveloped and provides storm water drainage at the north end of RWY 18/36 and is approximately 2 acres in size. Storm water runoff from this basin drains into Bachman Lake via Outfall No. 3.

1.5.4 Drainage Basin D

Drainage Basin D collects storm water runoff from a portion of the infield area between Taxiway A and the perimeter road. In addition, this basin drains several aircraft storage, maintenance, and fueling areas into Bachman Lake via Outfall No.4. Drainage Basin D is approximately 66 acres in size, of which about half is paved over or developed.

1.5.5 Drainage Basin E

Drainage Basin E is approximately 25 acres in size and drains the infield area between the northwest end of RWY 13L/31R and RWY 18/36. Storm water runoff from Drainage Basin E discharges through Outfall No. 5 into Bachman Lake. Approximately half of this basin consists of paved runways and taxiways.

1.5.6 Drainage Basin F

Drainage Basin F encompasses approximately 26 acres, of which 10 acres are located within the airport property boundary. This basin collects storm water runoff from a portion of Taxiway B and the parking areas of several hangar facilities adjacent to the airport property boundary. Runoff is directed off the airport property and into Outfall No. 6 at Bachman Lake. The majority of Drainage Basin F is either paved over or developed.

1.5.7 Drainage Basin G

Drainage Basin G provides storm water drainage to the parking areas of several hangar facilities adjacent to the airport property boundary. Most of this 16-acre basin consists of developed or paved areas, and

less than 1 acre is located on airport property. Storm water runoff from Drainage Basin G discharges through Outfall No. 7 into Bachman Lake.

1.5.8 Drainage Basin H

Drainage Basin H provides storm water drainage at the northeast end of RWY 13R/31L and is approximately 1 acre in size. Storm water runoff from this basin drains into Bachman Lake via Outfall No. 8. Drainage Basin H consists entirely of grassed areas.

1.5.9 Drainage Basin I

Drainage Basin I collects storm water runoff from multiple aircraft storage, maintenance, and fueling facilities, and discharges into Bachman Lake via Outfall No. 9. Drainage Basin I is approximately 7 acres in size, of which about 4 acres are located on airport property. Almost all of this basin is either paved over or developed.

1.5.10 Drainage Basin J

Drainage Basin H collects storm water runoff primarily from areas located west of RWY 18/36. This includes the northwest end of RWY 13R/31L, several aircraft storage, maintenance, and fueling facilities, and Fire Station No. 21. About one-half of Drainage Basin J is either paved over or developed. This basin is approximately 164 acres in size and discharges into Bachman Lake via Outfall No. 10.

1.5.11 Drainage Basin K

Drainage Basin K, approximately 25 acres in size, collects storm water runoff from the Southwest Airlines maintenance hangar facilities and several vehicle maintenance and storage facilities located along Shorecrest Drive. Drainage Basin K discharges at Outfall No. 11 into Bachman Lake. The majority of this basin consists of paved or developed areas.

1.5.12 Drainage Basin L

Drainage Basin L encompasses approximately 3 acres and provides storm water drainage for the parking area for the Southwest Airlines maintenance hangar located along Shorecrest Drive. This basin is entirely paved over and discharges into Bachman Lake via Outfall No. 12.

1.5.13 Drainage Basin M

Drainage Basin M collects storm water runoff from a vehicle maintenance and storage facility located along Shorecrest Drive. Runoff from this 7-acre basin flows into an inlet located near the intersection of Shorecrest Drive and Denton Drive, which in turn discharges into the tributary of the Elm Fork of the Trinity River downstream of the Bachman Lake Dam (Outfall No. 13). Approximately 6 acres of this basin are located within the airport property boundary, of which roughly half is paved over.

1.5.14 Drainage Basin N

Drainage Basin N is approximately 17 acres in size, of which the 2 acres located within the airport property boundary are entirely paved over. This basin provides storm water drainage a portion of the parking lot located in front of the Southwest Airlines headquarters building. Storm water runoff from this basin enters the MS4 along Denton Drive and discharges through Outfall No. 14 into the tributary of the Elm Fork of the Trinity River downstream of the Bachman Lake Dam.

1.5.15 Drainage Basin O

Drainage Basin O encompasses approximately 53 acres and collects storm water runoff from the Southwest Airlines headquarters building, parking lot, and simulator building, as well as several buildings located outside of the airport property boundary. Approximately 36 acres of this basin are located on airport property. Storm water runoff from Drainage Basin O enters the MS4 via Outfall No. 15, which in turn empties into a tributary of the Elm Fork of the Trinity River. This basin is almost entirely paved over or developed.

1.5.16 Drainage Basin P

Drainage Basin P is the second largest basin on the airport property. This basin collects storm water runoff from a portion of all three runways and their associated infields in addition to the main terminal building, parking areas, and multiple aircraft maintenance, storage, and fueling facilities. A portion of the infield system for RWY 18/36 is connected to the system located in Drainage Basin J. Therefore, if storm water runoff into the infield system exceeds its capacity, it will overflow into the Drainage Basin J system and discharge into Bachman Lake through Outfall No. 10. Drainage Basin P is approximately 326 acres in size and discharges into the MS4 via Outfall No. 16. The MS4 eventually empties into a tributary of the Elm Fork of the Trinity River located near the intersection of Harry Hines Boulevard and Gilford Avenue. About three-fourths of this basin is either paved over or developed.

1.5.17 Drainage Basin Q

Drainage Basin Q collects storm water runoff from a portion of the infield of RWY 13R/31L near the southeastern end of this runway. This basin encompasses approximately 24 acres and consists primarily of grassed areas. Drainage Basin Q discharges through Outfall No. 17 into the MS4, which in turn empties into Knight's Branch.

1.5.18 Drainage Basin R

Drainage Basin R comprises approximately 484 acres on the airport property and is the largest basin. This basin has storm water inflow along the northeastern property boundary from Knight's Branch (Inflow No. 1). Included in this basin is storm water runoff from the southeastern end of RWYs 13L/31R and 13R/31L, several aircraft storage, maintenance, and fueling facilities, the terminal gate area, Fire Station No. 42, and Cedar Springs Road. Approximately 38 acres located off airport property and along Mockingbird Lane drain into this basin. The majority of this basin is either developed or paved over. Drainage Basin R discharges into the MS4 via Outfall No. 18. This MS4 discharges into Knight's Branch.

1.5.19 Drainage Basin S

Drainage Basin S collects storm water runoff along Lemmon Avenue and Mockingbird Lane. Included in this basin is an undeveloped tract bounded by Lemmon Avenue, Mockingbird Lane, and Airdrome Drive that contains markers for RWY 13L/31R. This basin also provides storm water drainage at the airport entrance on Cedar Springs Road. There is no discrete outfall point for Drainage Basin L; rather, the sheetflow runoff from this basin enters inlets along Lemmon Avenue and Mockingbird Lane, which in turn are connected to the MS4 (Outfall No. 19). Drainage Basin S is approximately 53 acres in size and contains no industrial facilities. Approximately 19 acres of this basin are located within the airport property boundary, of which roughly half consists of pavement or developed areas.