

## Chapter 1. Draw Standard Departure Procedure

1. Prior to drawing departure area consult the US Terminal Procedures book to determine if there are published take off special **“Take Off Minimums and (Obstacle) Departure Procedures”** for the specific airport. If there are no special restrictions, proceed to the next step and the default settings will apply (*climb of 200’ per NM providing 48’ of obstacle clearance per NM*).

If there are specialized climb restrictions please refer to **Part 8. Chapter 3. Specialized Departure Procedure**

2. Select the **Draw** Menu from the tool bar at the top of screen (See Figure 8-2: Draw Departure Procedure).
3. Select the **Departure / Initial Climb Area** Option.

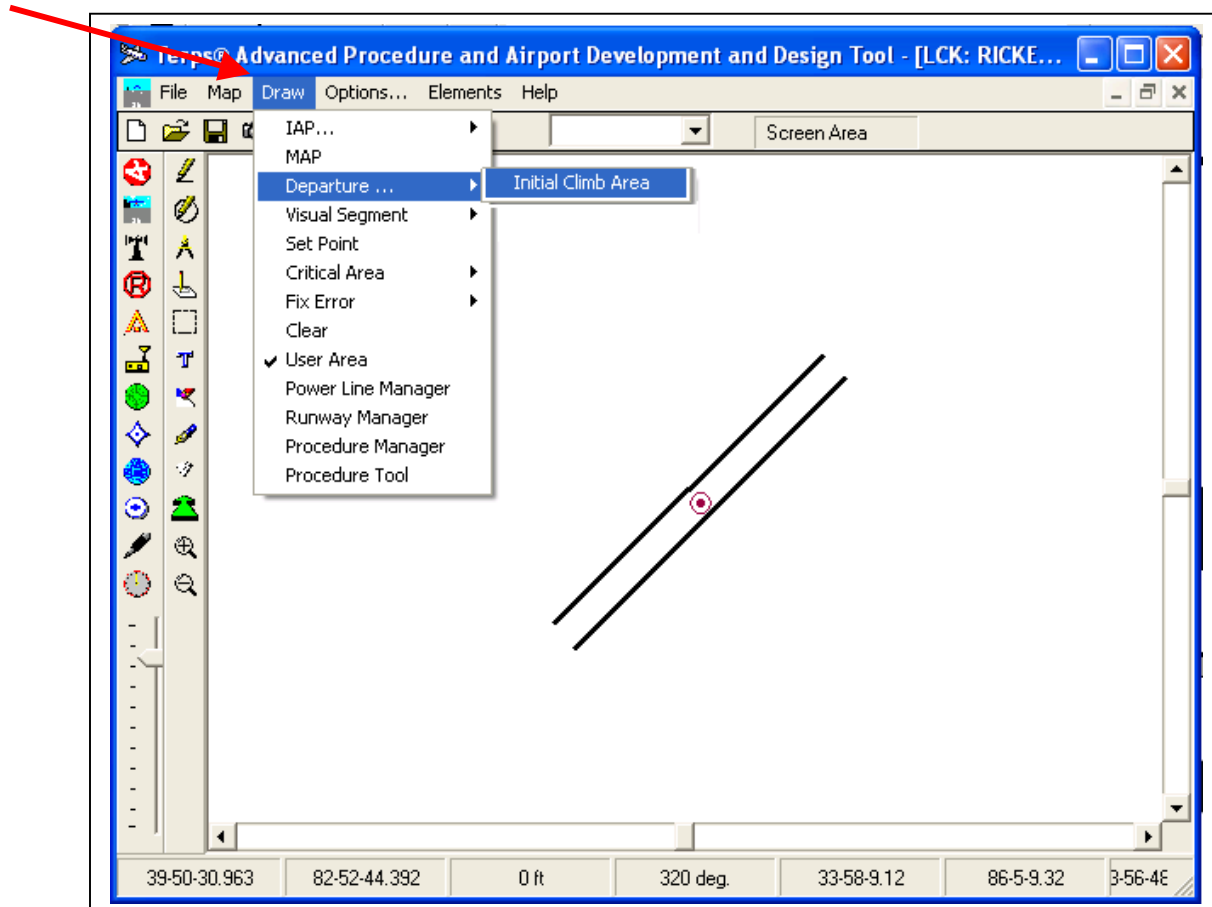


Figure 8-2: Draw Departure Procedure

4. The Departure Manager Window will open (see Figure 8-3.)
5. Select the **CALC** button.

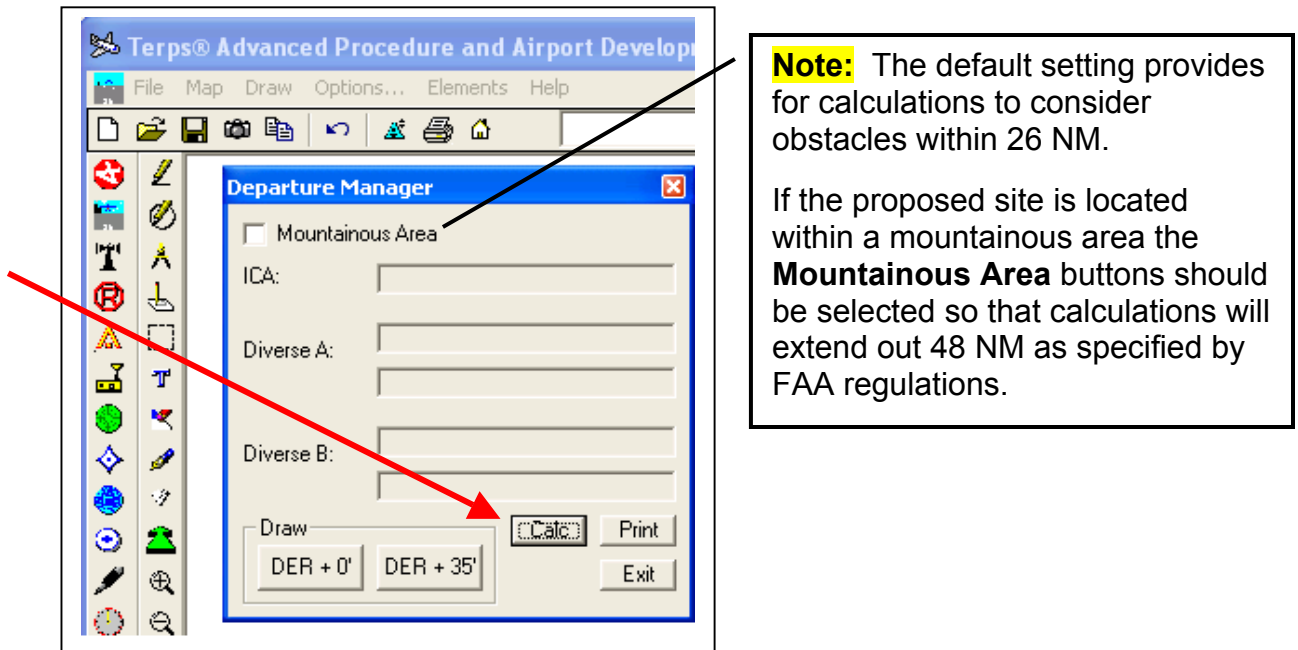


Figure 8-3: Departure Manager Window

6. If a runway has not already been selected the “Data Element Missing” window will open
  - a. Select OK

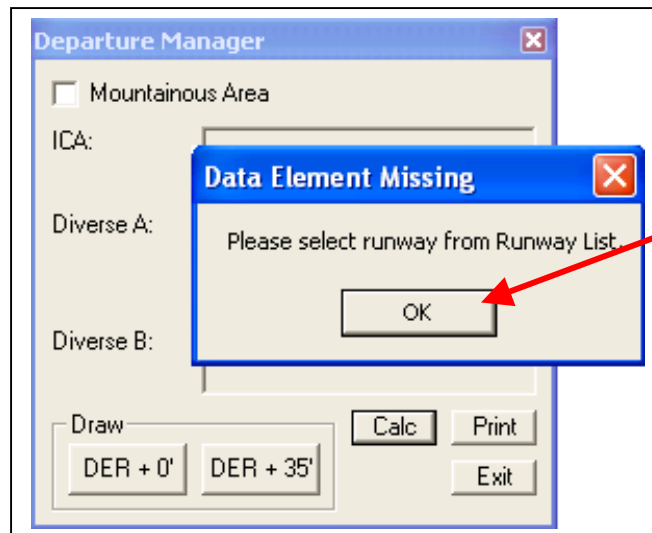


Figure 8-4: Departure Manager – Data Element Missing

- b. Select applicable runway from the dropdown runway box.  
**NOTE:** The runway selected should be the Departure end of the runway.  
For Example, if you are calculating the departure height for a Runway 23R  
Departure, you would Select the opposite end of the runway 05L

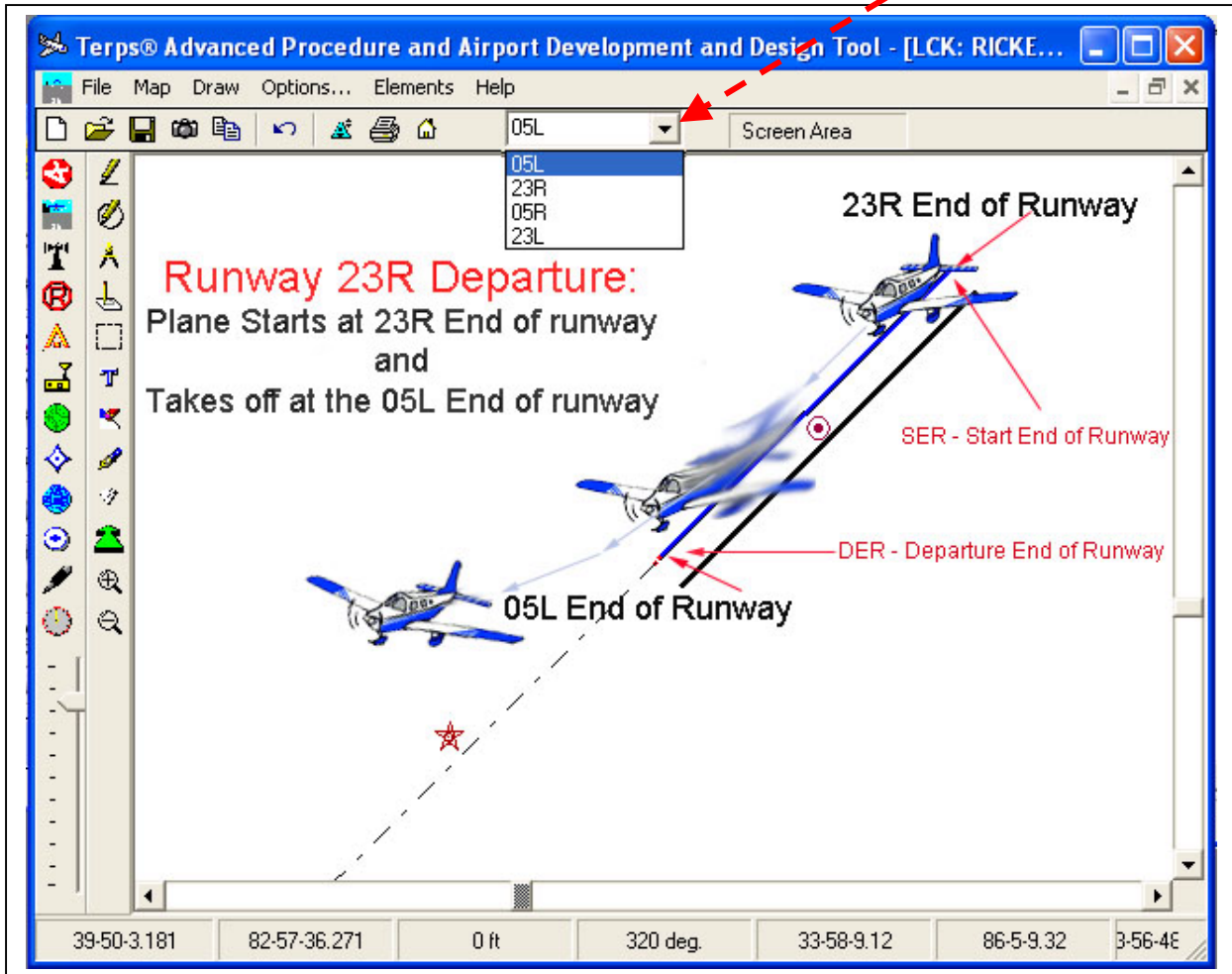
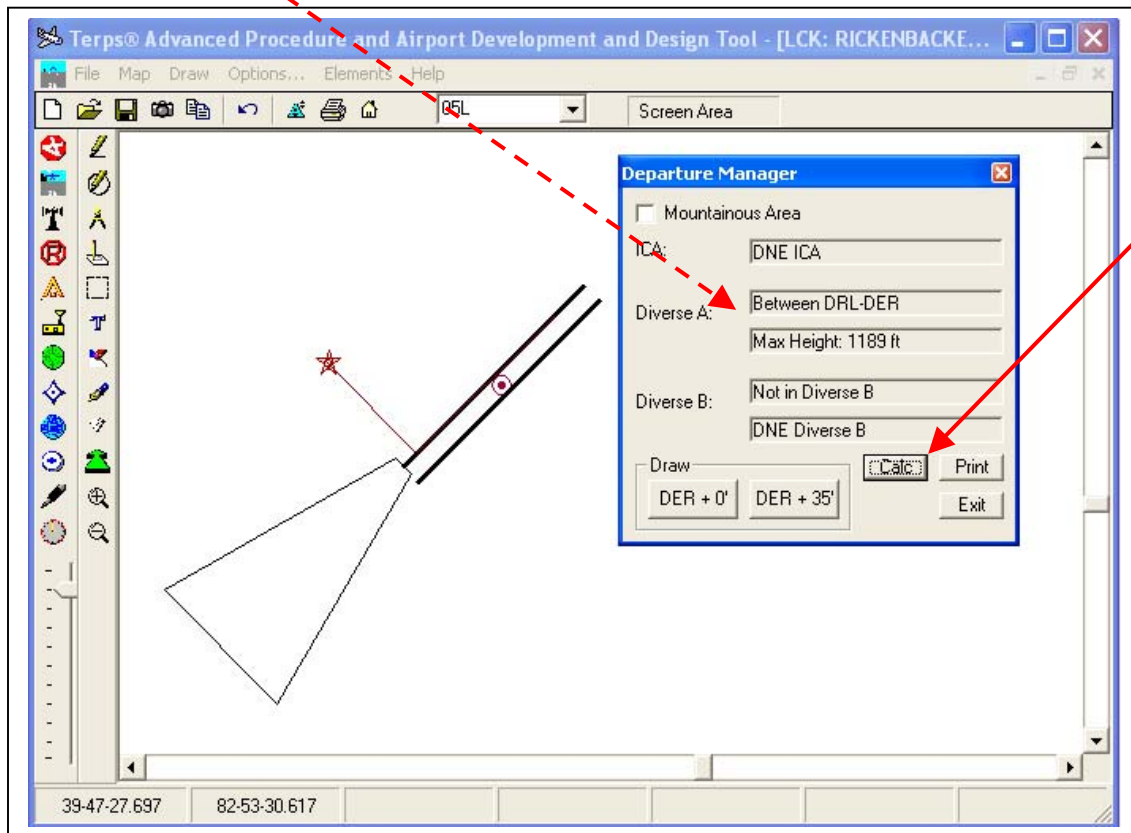


Figure 8-5: Departure Runway Selection

7. Select the CALC button and the Departure Manager window will display the results. *[In this case the proposed structure is within the Diverse A area and has a maximum allowable height of 1189 ft.]*



**Figure 8-6: Departure Manager Results**

8. The results can be printed by selecting the Print button in the lower right corner of the Departure Manager window.
9. The Departure minimums analysis should be performed for each runway end at the specific airport to ensure that no height limitations are overlooked.
10. Select Exit on the Departure Manager window when process is complete.

## Chapter 2. Manually Draw Departure Procedure

Although the program has the capability to automatically calculate the impact a proposed structure may have on the departure procedures, it is still possible for the user to manually draw a departure procedure with a 40:1 slope. The manual approach has two options: 1) draw the Initial Climb Area (ICA) and calculate the allowable height based elevation of the Departure End of Runway (DER) plus 0' [DER + 0'] or 2) draw the Initial Climb Area (ICA) and calculate the allowable height based elevation of the Departure End of Runway (DER) plus 35' [DER + 35'].

To manually draw the Departure Procedures – Zone 1, follow the steps listed below:

1. Select from the **Draw** Menu.
2. Select the **Departure**
3. Select. **Initial Climb Area**
  - a. The Departure manager window will open
4. Select the desired Draw option
  - a. **DER + 0'** (should always be used, especially for new construction)
  - b. **DER + 35'** (use for discussion purposes with the FAA, i.e. a plane should normally be at least 35' above the DER elevation by the time it reaches the end of the runway during departure.

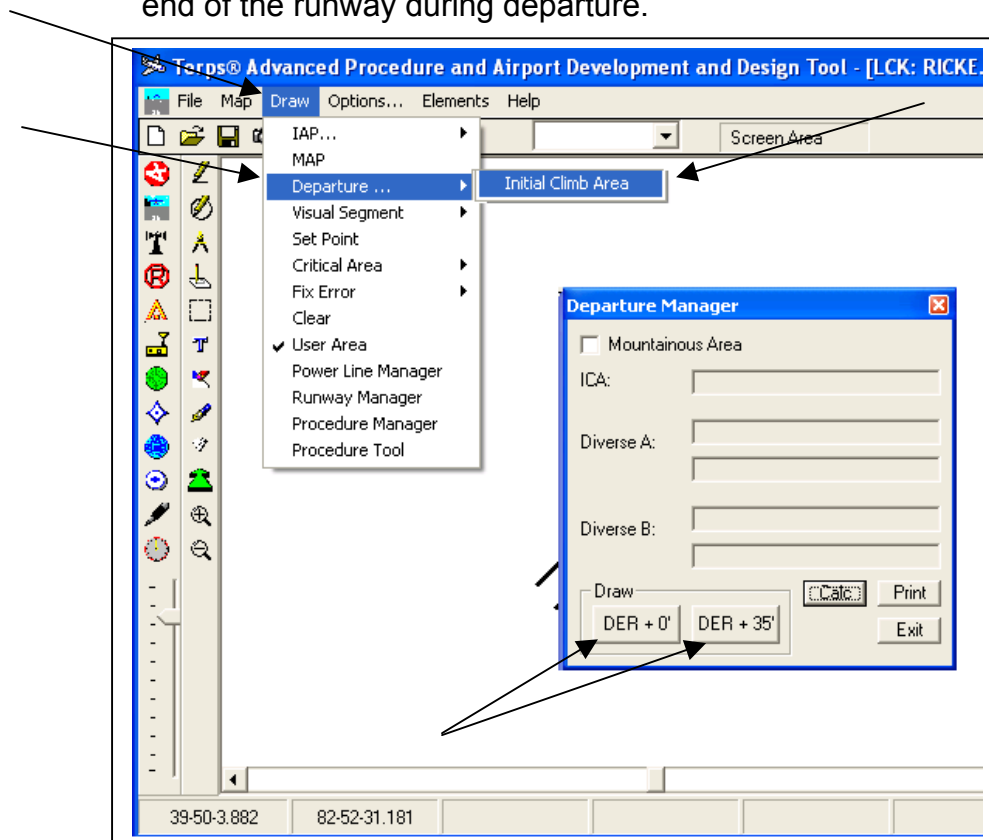


Figure 8-7: Manually Draw Departure Procedures

5. Place your cursor at the departure end of the runway (DER).
6. Click and hold the right mouse button.
7. Draw along airport centerline for a distance of 2NM.

**NOTE:** Prior to releasing the right mouse button, Note the number displayed (this represents the Maximum AMSL at that point). See Figure 8-8: Draw Departure Procedure below.

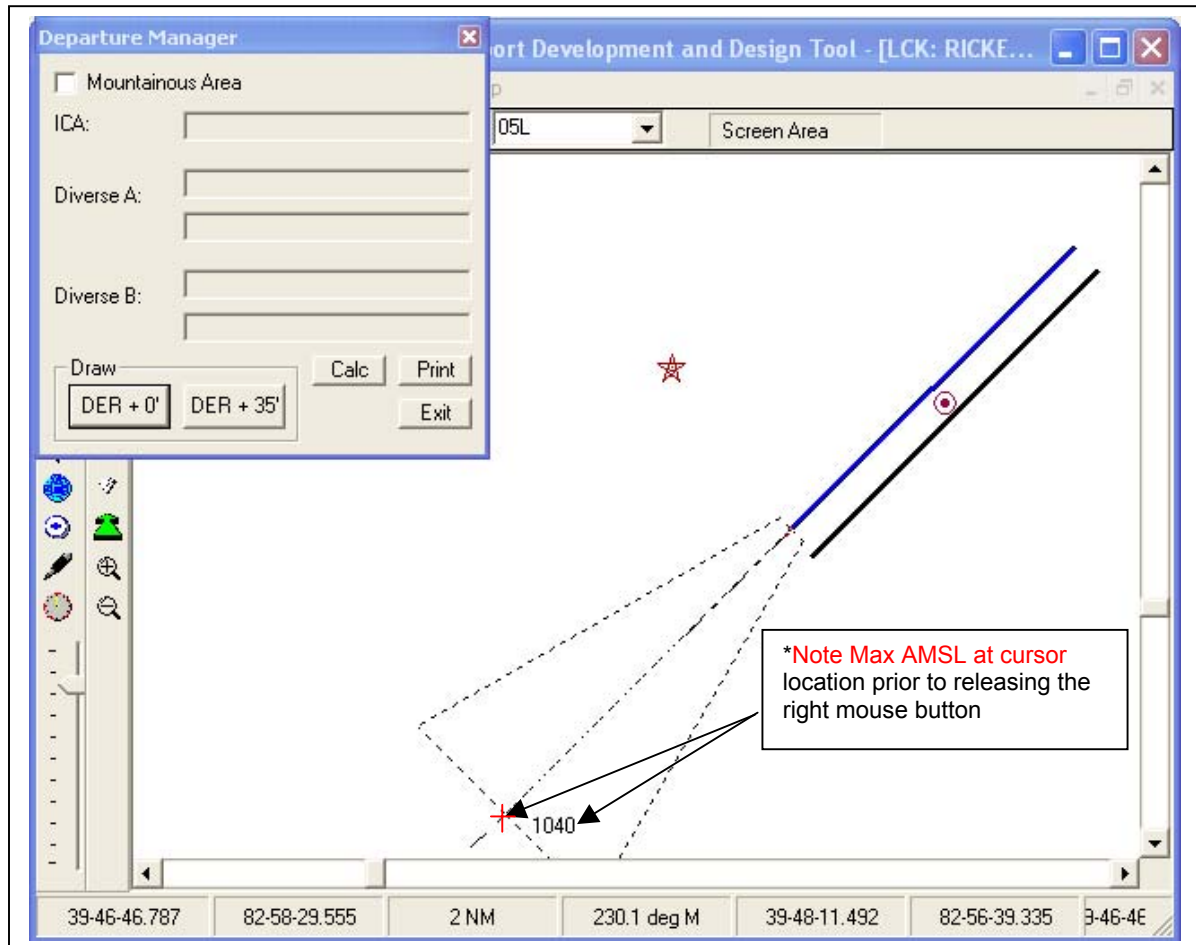




Figure 8-8: Draw Departure Procedure

## Chapter 3. Specialized Departure Procedure

Refer to the **Take-Off Minimums AND (Obstacle) Departure Procedures** section of the US Terminal Procedures books to determine if there are any specialized departure procedures.

**NOTE:** For this example please refer to Gadsden Municipal Airport (GAD)

 <b>TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES</b> 	
04162	
DOBBINS ARB (ATLANTA NAS) (KMGE/      FAYETTE, AL	
<b>GADSDEN, AL</b> <b>GADSDEN MUNI</b> TAKE-OFF MINIMUMS: Rwy 18, 900-2 or std. with a min. climb of 340' per NM to 1500. Rwy 36, 600-2 or std. with a min. climb of 280' per NM to 1200. DEPARTURE PROCEDURE: Rwys 6, 18, 36, climb runway heading to 1500 before turning on course. Rwy 24, climb runway heading to 2200 before turning on course.	
centerline, 1058' MSL trees, 1313' to 1457' from departure end of rwy, extending 657' to 706' right of centerline. 1048' MSL trees, 1674' from departure end of rwy, 925' left of centerline. 1097' MSL trees, 2600' to 2700' from departure end of rwy, extending 900' to 1200' right of centerline. 1088' MSL trees, 3300' from departure end of rwy, 295' right of centerline. 1141' MSL trees, 4150' to 4950' from departure end of rwy, extending 1050' to 1700' left of centerline. 1112' MSL power pole, 4469' from departure end of rwy, 1616' right of centerline. 1170' MSL tree, 5905' from departure end of rwy, 718' right of centerline. 1147' MSL tree, 6136' from departure end of rwy, 297' left of centerline.	a min. climb of 265' per NM to 1500. DEPARTURE PROCEDURE: Rwys 4, 22, climb runway heading to 2000 before turning on course.
<b>GADSDEN, AL</b> <b>GADSDEN MUNI</b> TAKE-OFF MINIMUMS: Rwy 18, 900-2 or std. with a min. climb of 340' per NM to 1500. Rwy 36, 600-2 or std. with a min. climb of 280' per NM to 1200. DEPARTURE PROCEDURE: Rwys 6, 18, 36, climb runway heading to 1500 before turning on course. Rwy 24, climb runway heading to 2200 before turning on course.	

**Figure 8-9: Take-Off Minimums And Obstacle Departure Procedures**

As shown in the figure above, Gadsden Municipal Airport requires a climb of 340' per NM for Rwy 18 and 280' per NM for Rwy 36, which translates to a climb requirement that is steeper (faster) than the standard 200' per NM. To determine the exact allowable height restrictions for airports with specialized Take-Off Minimums and Obstacle Departure Procedures, it is recommended that a consulting firm such as Federal Airways & Airspace be contacted to perform the complex calculations required to make an accurate determination of the impact the proposed structure may have on navigable airspace.