



MISSOURI DEPARTMENT OF AGRICULTURE  
 DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION  
 LAND SURVEY PROGRAM

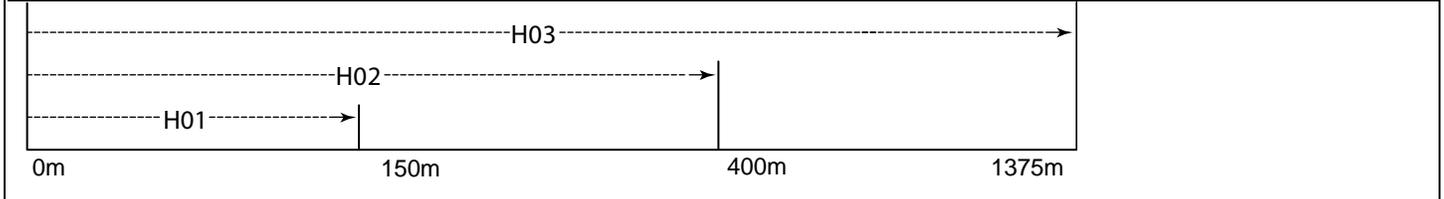
**EDM CALIBRATION REPORT – DEXTER EDM BASELINE (HORIZONTAL)**

DATE	COMPANY	REFLECTOR SETUP <input type="checkbox"/> Tripod with tribrach <input type="checkbox"/> Prism pole <input type="checkbox"/> Bipod pole
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INSTRUMENT TYPE, MODEL AND SERIAL NUMBER

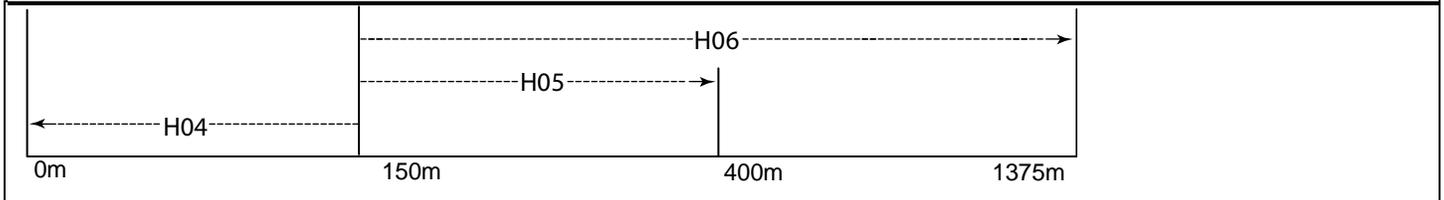
**NOTE: ALL DISTANCES SUBMITTED SHALL BE HORIZONTAL.**

**E.D.M. AT 0m**



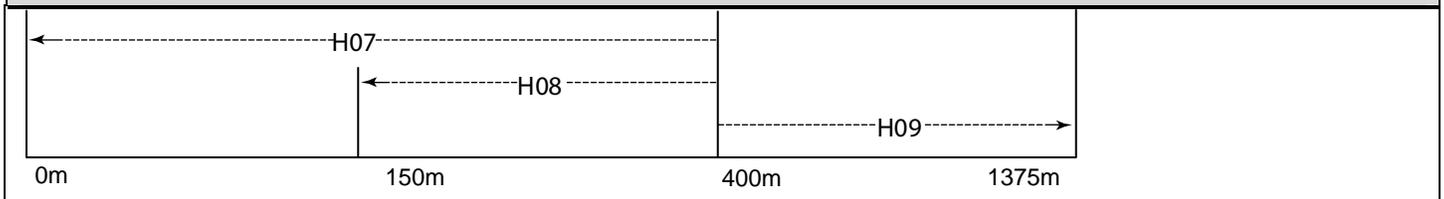
H01 =	H02 =	H03 =	TEMP
H01 = (150.0021m)	H02 = (399.9965m)	H03 = (1374.9813m)	❖ PRESS

**E.D.M. AT 150m**



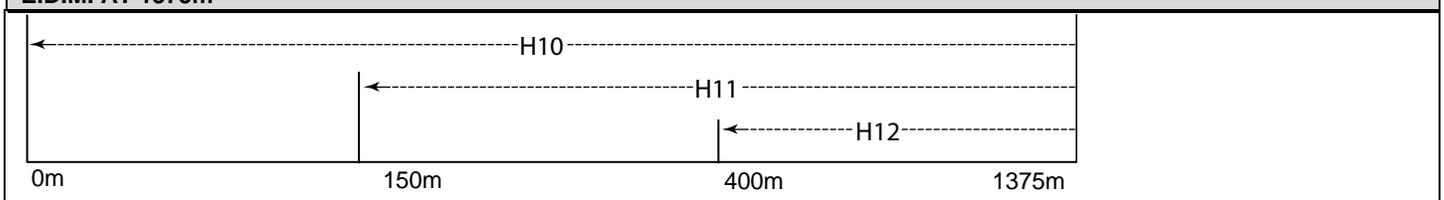
H04 =	H05 =	H06 =	TEMP
H04 = (150.0021m)	H05 = (249.9944m)	H06 = (1224.9792m)	❖ PRESS

**E.D.M. AT 400m**



H07 =	H08 =	H09 =	TEMP
H07 = (399.9965m)	H08 = (249.9944m)	H09 = (974.9849m)	❖ PRESS

**E.D.M. AT 1375m**



H10 =	H11 =	H12 =	TEMP
H10 = (1374.9813m)	H11 = (1224.9792m)	H12 = (974.9849m)	❖ PRESS

❖ Barometric pressure for EDM calibration **must be station pressure**. Do not use barometric pressure reduced to sea level.



MISSOURI DEPARTMENT OF AGRICULTURE  
 DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION  
 LAND SURVEY PROGRAM  
**EDM CALIBRATION REPORT – DEXTER EDM BASELINE (SLOPE)**

DATE	COMPANY	REFLECTOR SETUP <input type="checkbox"/> Tripod with tribrach <input type="checkbox"/> Prism pole <input type="checkbox"/> Bipod pole
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INSTRUMENT TYPE, MODEL AND SERIAL NUMBER
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NOTE: ALL DISTANCES SUBMITTED SHALL BE SLOPE.

**E.D.M. AT 0m**

0m	150m	400m	1375m
			HI AT 0 METER MARK
S01 =	S02 =	S03 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

**E.D.M. AT 150m**

0m	150m	400m	1375m
			HI AT 150 METER MARK
S04 =	S05 =	S06 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

**E.D.M. AT 400m**

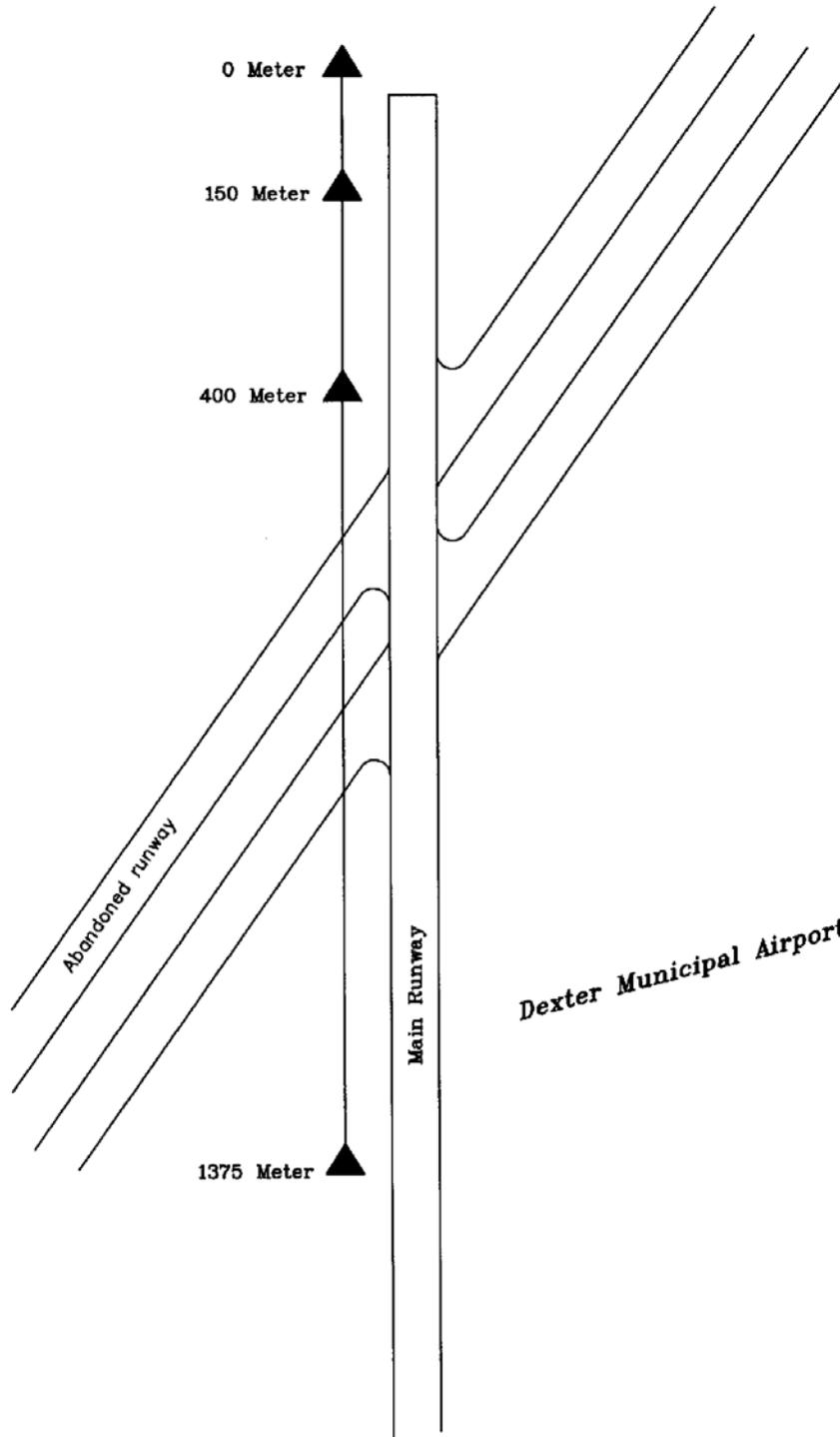
0m	150m	400m	1375m
			HI AT 400 METER MARK
S07 =	S08 =	S09 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

**E.D.M. AT 1375m**

0m	150m	400m	1375m
			HI AT 1375 METER MARK
S10 =	S11 =	S12 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

Heights or delta elevations between monuments. Elevations by the Missouri Department of Transportation.  
 0m = 30.48m    150m = 30.33m    400m = 29.49m    1375m = 28.46m  
 ❖ Barometric pressure for EDM calibration **must be station pressure**. Do not use barometric pressure reduced to sea level.

*Dexter Baseline*



NOT TO SCALE

DATE OF SKETCH 2003

# **DEXTER BASELINE**

## **Electronic Distance Measurement (EDM) Calibration Baseline Stoddard County, Missouri**

**Established by the  
Missouri Department of Agriculture  
Division of Weights, Measures & Consumer Protection  
Land Survey Program**

**in cooperation with the  
Southeast Chapter of the Missouri Society of Professional Land Surveyors**

**1984**

The Dexter EDM Baseline is located along the west side of the main north-south runway at the Dexter Municipal Airport in Stoddard County, Mo. Airport personnel should be notified before using the baseline. To reach the airport from the junction of state Routes 25 and 114 in the southeast part of Dexter, go east on state Route 114 approximately 0.75 mile to the airport entrance on the south, turn right and go south about 0.3 mile. Airport Administration is the first building past the restaurant at the parking area.

To reach the baseline return to state Route 114, turn left and go west about one-quarter mile to the entrance just west of East Park. Turn left and go south 0.15 miles along the west side of the baseball diamonds to the end of pavement. Continue southerly and easterly 0.25 miles along a dirt track road between agricultural fields to the 0 meter station described following:

The 0 meter station is 212 feet northwest of the northwest corner of the runway, 45 feet northeast of the center of the dirt track road one-foot south of a witness post and sign. At present the station is about 10 feet southwest of the center of a pile of rusted farm implements.

To reach the 150 meter station, continue southerly along dirt track road to station on right. The station is referenced by two concrete nails along the west edge of the runway. The northerly nail is on the west edge of the runway even with the top of the numbers '18' painted on the runway. The station is 96.9 feet southwest of the northerly nail, 97.3 feet northwest of the southerly nail, and one foot east of a witness post and sign.

The 400 meter station is reached by continuing southerly along the dirt track road. It is also on the right or west side of the road and is also referenced by two concrete nails along the west edge of the runway. Station 400 is 89.3 feet southwest of the northerly nail, 88.7 feet northwest of the southerly nail, and one foot east of a witness post and sign.

To reach the 1,375 meter station, continue southerly along dirt track road until it meets the abandoned northeast-southwest runway. Turn right and go southwesterly about 400 feet to an abandoned taxiway. Turn left and go southeasterly to the edge of the active North-South runway. **DO NOT DRIVE ON ACTIVE RUNWAY.** Turn right and go southerly in grass area outside landing lights along west edge of runway to abandoned northeast-southwest taxiway. Continue southerly across taxiway. Remain west of runway lights and continue southerly in grassy area on west side of runway.

Station site is about 180+ feet north of the south end of the runway. It is 55.6 feet north-northeast of the northeast corner of a control box for a directional landing light, 185.4 feet northwest of the southwest corner of the runway, 60.5 feet northwest of a concrete nail in the west edge of the runway, 43.3 feet west-southwest of a runway light, 60.5 feet southwest of a concrete nail in the west edge of the runway, which is about 1.5 feet south of the south edge of the numbers '36' painted on the runway and one foot east of a witness post and sign.

The baseline station elevations are assumed.

0 meter – 30.48 meters

150 meter – 30.33 meters

400 meter – 29.49 meters

1,375 meter – 28.46 meters

## **ELECTRONIC DISTANCE MEASUREMENT (EDM) CALIBRATION BASELINES IN MISSOURI**

The Missouri Department of Agriculture has established 12 Electronic Distance Measurement (EDM) calibration baselines in Missouri. Modern equipment provides the user a multitude of options in the art of measurement. Inability, inexperience and incompetence using these systems can cause serious blunders. The EDM baseline will allow the operator to verify the instrument is in calibration, affirm the instrument is being operated properly and substantiate all the equipment utilized in measurement is properly adjusted and used correctly.

Each EDM baseline consists of four monumented stations. The monuments are nominally spaced at 0 meters, 150 meters, 400 meters and 1,375 meters. Each station will be occupied by the EDM instrument and a measurement made to the other three stations for a total of 12 measurements. The results will determine the scale factor, the system constant and the standard deviation of the measurement in parts per million.

The EDM should be tested using the same procedures as in every day fieldwork. This will not only confirm the EDM is in good working order, but will ensure the entire system is properly adjusted. The measuring system includes, but is not limited to, the instrument, the tripods, bipods, tribrachs, prisms, prism poles, thermometers and barometers/altimeters.

### **WHEN TO CALIBRATE YOUR INSTRUMENT?**

- After taking delivery of a new or used instrument
- Immediately after service
- Anytime the operator feels the instrument is not working properly
- Before and after the Missouri Department of Natural Resources or other government agency contracts

### **BEFORE RUNNING THE BASELINE, PERFORM THE FOLLOWING:**

- Check and adjust optical plummets, bull's-eye bubbles and plumbing poles
- Check thermometers and barometers/altimeters
- Make sure all tripods are rigid and stable
- Clean prisms
- Fully charge all batteries
- Have an EDM Calibration Report form for the baseline you are running

When filling out the EDM Calibration Report form, fill in all lines that apply and add additional information if needed.

**IMPORTANT NOTE:** Before each measurement, enter the temperature and station pressure or absolute pressure into the instrument. The barometric pressure given over the radio and at airports has been reduced to sea level. **DO NOT ENTER SEA LEVEL PRESSURE INTO THE EDM.** One method used to find station pressure or absolute pressure is by elevation. The barometric pressure is reduced 0.1 inches of mercury for every 90 feet of elevation. So, to correct the sea level pressure obtained from the radio or airport, pick an average elevation for your area and divide by 90. Example: if the elevation is 1,000 feet, dividing 1,000 by 90 equals 11.11. Therefore, subtract 1.11 inches from the sea level pressure to obtain station pressure or absolute pressure.