

Crime scene documentation

Crime scene sketching

Learning Objectives:

- ♣ To be able to define the term crime scene sketching.
- ♣ To be able to explain the various types of sketches.
- ♣ To be able to describe a rough sketch.
- ♣ To be able to describe a final sketch.
- ♣ To be able to describe differentiate between rough and final sketch.
- ♣ To be able to demonstrate different methods of measurements within a crime scene.

- ♥ **Definition of scene of crime** is a place where the crime was committed or where the maximum physical evidence related to crime is found.

Methods of crime scene documentation

- ☀ Photography.
- ☀ Videography.
- ☀ **Sketching.**
- ☀ Taking notes.

- ♥ **Crime scene sketching:** an illustrative diagram, represents permanent record of the actual size and distance relationships between the crime scene and its physical evidence. Sketching is the final step in CSI. it is taken after photographing and before any evidence is moved.

Reasons of using Crime Scene Sketches:

1. It is permanent record of the scene.
2. It accurately portrays the physical evidence.
3. It establishes the precise location and relationship of objects and evidence at the scene.
4. It helps to reconstruct the crime.
5. It helps to create a mental picture of the scene for those not present.
6. It can help in refreshment of the investigator's memory.
7. It assists in preparing the written investigative report.

8. It assists in presenting the case in court. Well prepared sketches and drawings help judges, juries, witnesses, and others to visualize the crime scene.

Sketching is of two types:

A. Rough sketch: freehand illustration created at the crime scene before evidence collection. It shows all the evidence to be collected, major structures present in the crime scene, and other relevant structures in or near the crime scene. The rough sketch will show all the measurements taken to determine the size and distance relationships at the crime scene (Figure 1).

It is characterized by:

1. Prepare at the site of crime only.
2. Pencil or chalk- drawn.
3. Indicate directions with the help of compass.
4. Measure exact distances & don't make any approximations.
5. Usually not drawn to scale.
6. Show all important items.
7. Measure distances of evidence from two fixed points.

B. Final or finished sketch: A precise rendering of the crime scene, prepared from the rough sketch. It is drawn to scale. It should never show any measurements. It has a clean appearance. Finished sketches can be completed either by the originator of the rough sketches or by another staff member, such as an artist then a sketch is completed. The final sketch is prepared for courtroom presentation.

It is characterized by:

1. The final sketch will be completed after leaving the crime scene. There is never a second chance to sketch a scene, so all information must be noted before leaving.
2. Drawn as per scale. The final sketch will be drawn with a ruler to scale and may be done on graph paper.
3. A final sketch is produced in ink or in computer.
4. Other things are as in the case of rough sketch.

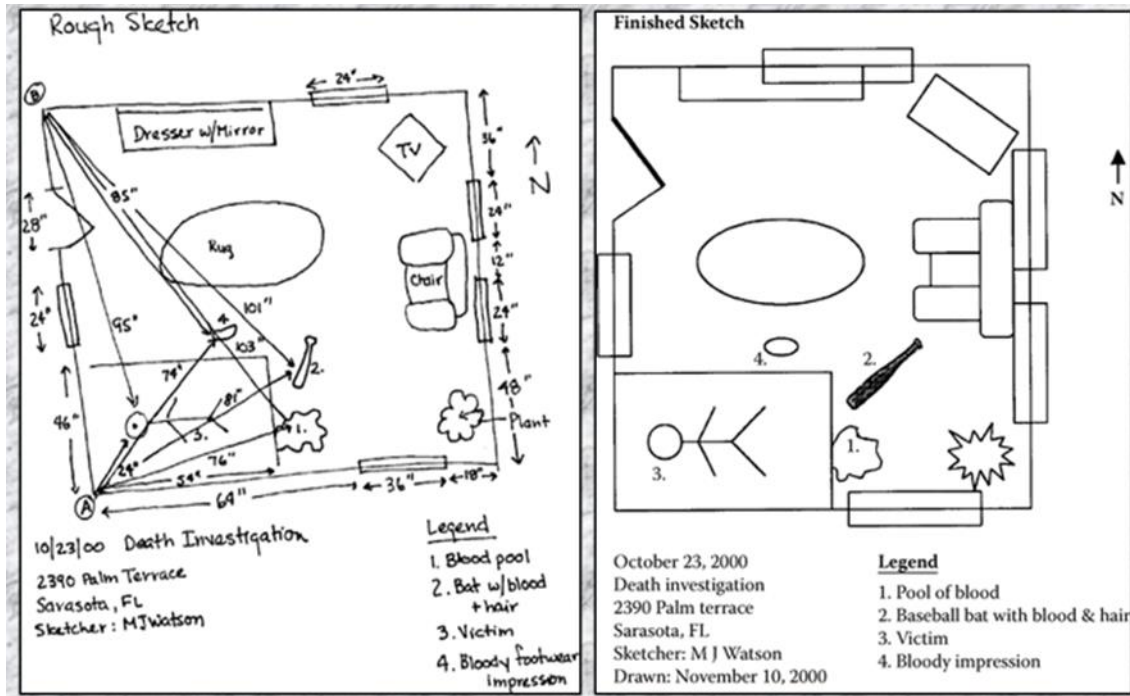


Figure (1): Examples of rough and final sketches

Variations of View in Sketches

There are different crime scene variations of view can be represented within a sketch:

- ♥ **The bird's eye or (overhead view /Top-down):** An overhead or bird's eye view is the most common form of crime scene sketching. It is prepared with the perspective being as the author was looking down upon the scene from above. This type shows the floor plane but cannot represent heights of items or show associated evidence on walls. (Figure 2)
- ♥ **Elevation or side view sketch:** A person must sketch an elevation or side view to show evidence located on a front of buildings. Interior wall, or any item of which Height is an important aspect. i.e., Portrays a vertical plane rather than a horizontal plane. Examples include bloodstain patterns on vertical surfaces as walls or bullet holes through windows (Figure 3).

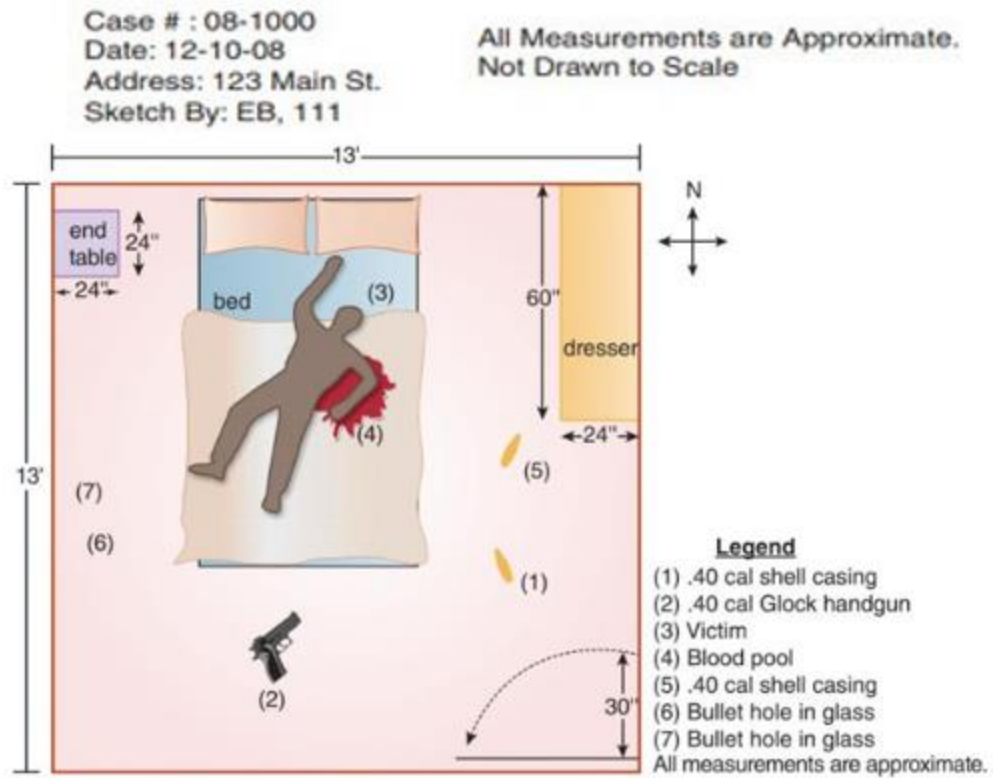


Figure (2): Example of an overhead/bird's eye view sketch

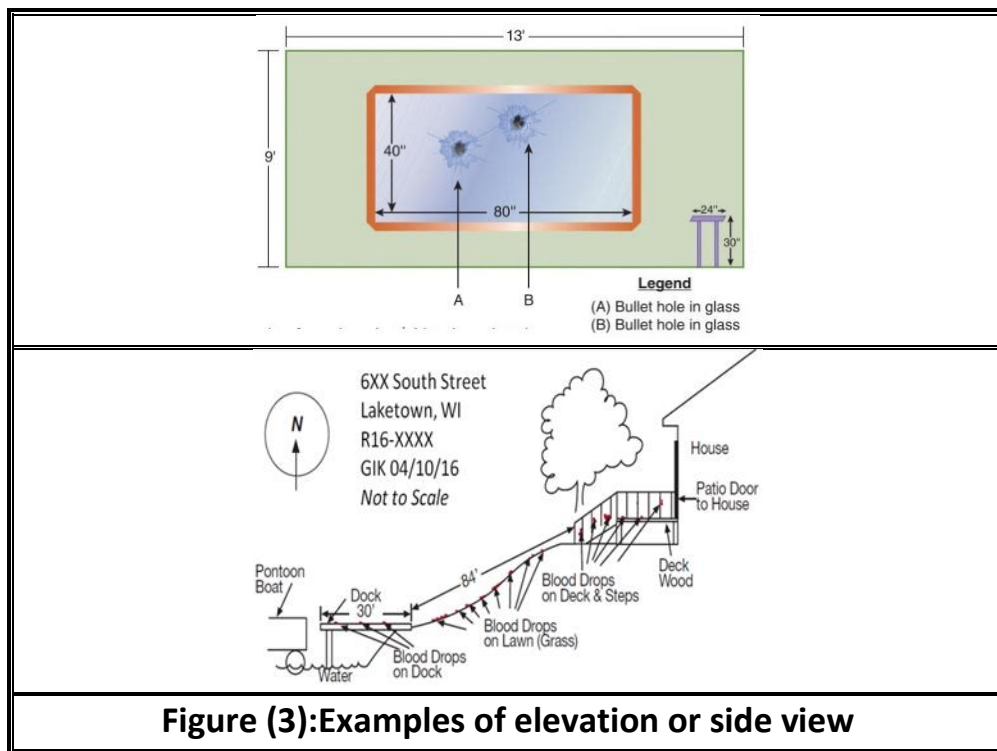
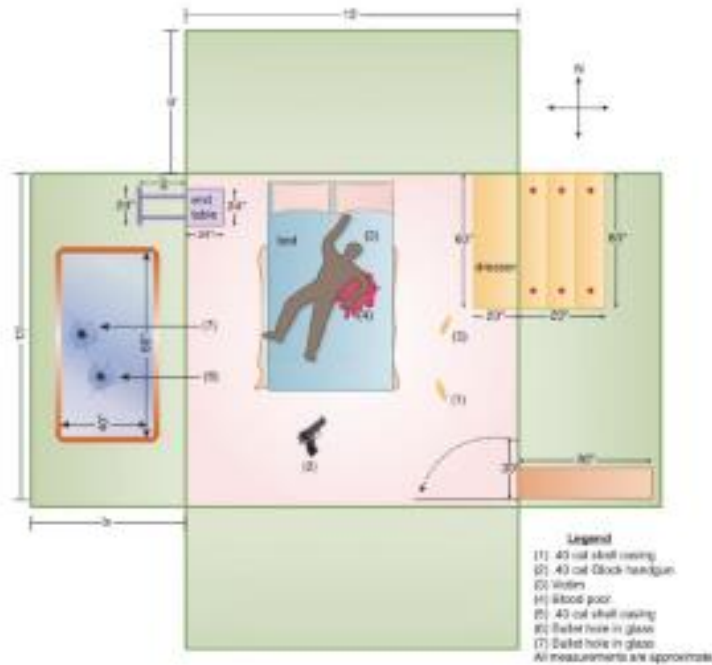


Figure (3): Examples of elevation or side view

- ♥ **Exploded view or Cross-projection** consists of a combination of the first two type sketches. It shows a floor with walls laid out flat (Figure 4).



(Figure 4): Exploded view of bathroom.

- ♥ **The three-dimensional (3-D) view (perspective view):** it is created with the aid of computers and have primary function as being crime scene activity reconstruction to help explain what happened and in what order (Figure 5).

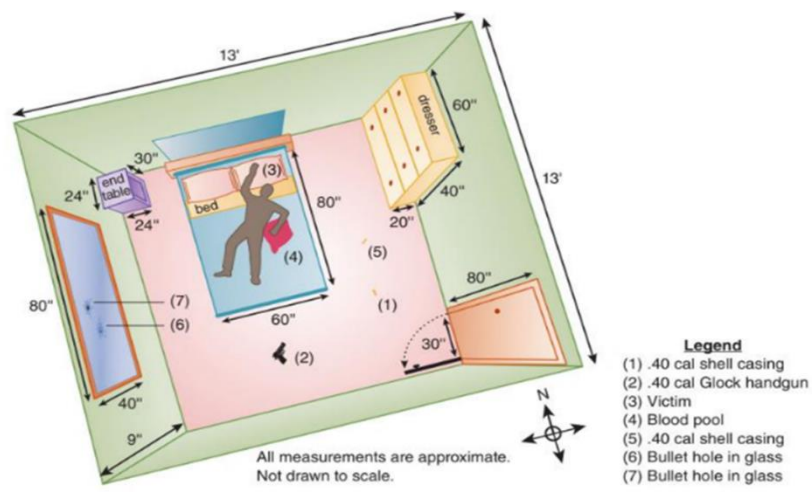


Figure 5: Example of a three-dimensional crime scene sketch

Crime Scene Mapping

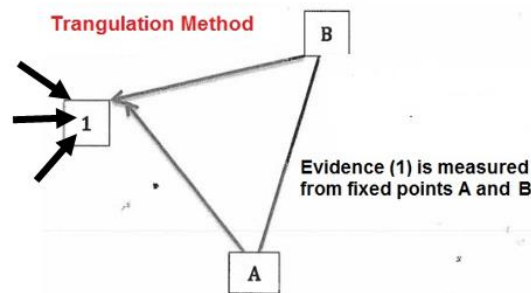
Mapping is the term associated with crime scene measurements. Sometimes a person may sketch but not map, meaning that he or she draws a sketch of an area but doesn't apply measurement to the sketch produced and items represented. Rarely, one map without sketching (i.e., record measurement with no graphic representation, for what the measurements represent)

Different Measuring Methods for the Crime Scene Sketch

There are several measuring techniques used to obtain accurate measurements for the sketch:

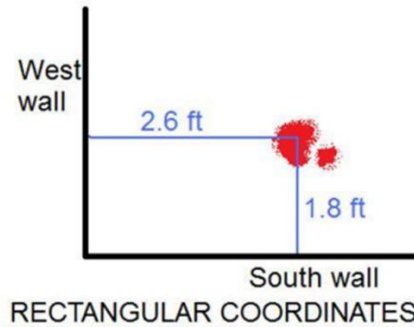
I. Triangulation Method characterized by:

- ◆ The triangulation method utilizes two fixed permanent objects within the crime scene. Measurements are taken from each fixed point to each piece of evidence.
- ◆ Measurements should be accurate to within $\frac{1}{4}$ inch.
- ◆ Use triangulation indoors or outdoors; it is a good method to use in areas lacking straight lines.



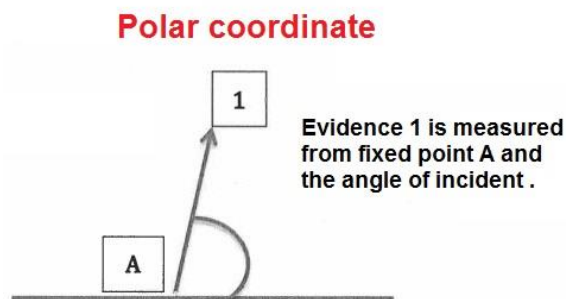
II. Rectangular Coordinate Method:

- Easiest to use indoors where there are 4 walls in a rectangular format. Can be used outdoors where there are fixed areas with rectangular format.
- The rectangular coordinate method is used when measuring the distance to an object from two perpendicular objects, such as walls that meet at a 90-degree angle. .



III. Polar Coordinate Method:

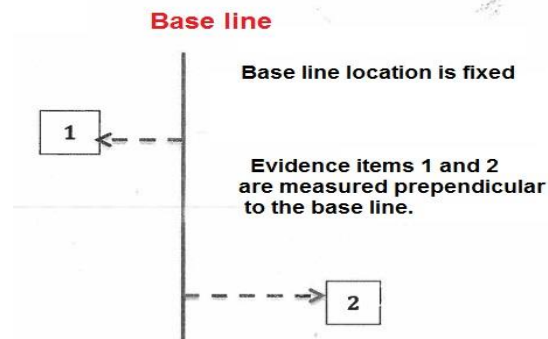
- The polar coordinate method is more appropriate for an outdoor scene in which only a single fixed or reference point is present, and the evidence is scattered over a relatively open area.
- The angle and the distance from a reference point to the evidence are measured with the device.
- The angle can be measured with either a large protractor or an optical device such as a transit (A transit is a surveying instrument that also takes accurate angular measurements) or a compass. In the polar coordinate system, the origin is called a pole.
- The protractor المنقلة technique with a 360-degree protractor is useful for underwater scenes.



IV. Transecting Baseline Coordinate Method:

- Use the baseline method in outdoor areas that are irregularly shaped as the desert or on farmland.
- this method is used to measure items of evidence when there are numerous objects in the crime scene and other measuring techniques will not work.

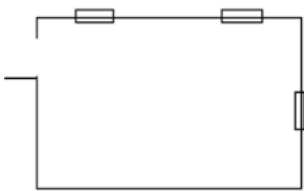
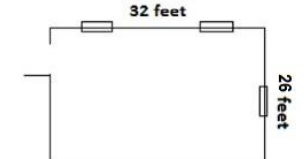
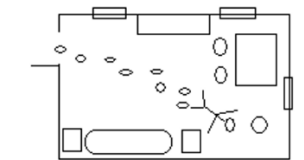
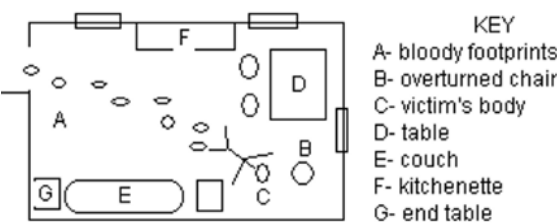
- Baseline can be identified or developed from which to conduct measurements. This can be **existing area** (e.g., edge of roadway, a wall, or a fence سياج) or it can be **developed by a person** as placing a tape measure through the scene between two known fixed points (as trees).
- Once the baseline well established, measurements are taken from the baseline at an approximate 90-degree angle from the baseline to a point on the identified item. Also, the length along the baseline is also recorded, thus giving the required two measurements for each item.
- Measurements should be accurate to within $\frac{1}{4}$ inch.
- This method is quick and easy but not accurate.



Sketching materials Required

1. A supply of pencils (medium or hard lead).
2. Graph paper and blank paper.
3. A clipboard or other solid portable drawing surface.
4. A metal tape measure of at least 50 feet.
5. A 12- or 15-inch ruler for drawing straight lines, drawing to scale, or making very short measurements.
6. A reliable compass or some other means of finding north.
7. A protractor for drawing and measuring angle.

Steps in sketching the crime scene.

<p>1. Draw a rough outline of the area include the windows (represented by rectangles) and doors (represented by openings in the outlines)</p>	
<p>2. Measure the room or space in which the crime occurred. Label the dimensions on the sketch.</p>	
<p>3. Sketch the furniture and location of the evidence using basic shapes.</p>	
<p>4. Label each item in diagram with a number or letter, then write the name in the key.</p>	 <p>KEY A- bloody footprints B- overturned chair C- victim's body D- table E- couch F- kitchenette G- end table</p>
<p>5. Label the diagram with the date, time, location, and victim's name if known.</p>	
<p>6. Remember: Make two measurements from fixed points to each piece of evidence as discussed before</p>	

The final sketch should include:

1. Title:

- ◆ What does the sketch present (e.g., sketch of bank robbery)

2. Body:

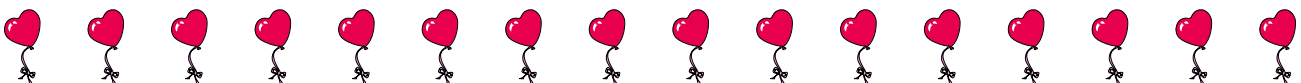
- ◆ It refers to the sketch proper to include the position of the victim and other items in the crime scene.
- ◆ It includes proper measurements of distances of objects in the crime scene.

3. Compass Direction (Orientation)

- ◆ Refers to the standard arrow to indicate the north direction.

4. Information of Case.

- ◆ Date ,time, place, and case number.



- ◆ The status of the case whether currently committed or days have passed after its discover.

5..Name of victim if available.

6. Measurements

- ◆ This is an element of sketch wherein measurements are shown in the sketch to show accurate spaces and distances of relevant object, to their point of reference.

7.Scale of Proportion.

- ◆ It is essential element of the finished sketch.
- ◆ The scale of 1:50 (in inches) means that one inch in the sketch measurements 50 inches in the actual scene measurement.

8.Legend.

- ◆ This is usually placed at the bottom outside the sketch of the scene.
- ◆ Identify the numbers or letters represent the objects.

9.Sketcher's Name and Signature.

- ◆ This is part of the sketch where the name of the sketcher and the team leader are written and signed.
- ◆ Date and Time. It refers to the exact time the sketch was made.

