

Investigations: Capturing Eyewitness Perspective

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INTRODUCTION

In the 1992 comedy *My Cousin Vinny*, the criminal defense attorney played by Joe Pecsci has the insurmountable task of raising doubt before the jury in what appears to be solid eye witness accounts, linking the defendants to the crime scene.

With one witness in particular, Cousin Vinny is showing the witness photographs, and asks on cross examination, “So Mr. Crane, you can positively identify the defendants for a moment of two seconds, looking through this dirty window, this crud covered screen, these trees, with all these leaves on them, and I don’t know how many bushes...”



As comical as the entire exchange was, there is an element of relevance to be taken away.

In your investigation, what could a witness actually see from their perspective at the time of the incident? And ... how can we replicate these conditions in an court approved evidentiary manner?

Factors that come into play are obstructions, lighting conditions, distance, weather, etc.

I hope you find the article informative!

CASE BACKGROUND

In 2008, I was approached by a civil attorney that gave me the following fact pattern.

1. Our client (plaintiff) arrived near a little league baseball field for a custody exchange at the end of practice. The plaintiff was on the sidewalk near her car when she was allegedly attacked by the other parent (defendant).
2. The defendant had several witnesses (friends) on the baseball field cleaning up, when they allegedly saw what occurred, stating the defendant did NOT strike the plaintiff with a closed fist.
3. An independent witness walking their dog on the sidewalk saw the incident as they approached from 30 to 20 feet away, with no obstructions.
4. It was dusk when the multiple defense witnesses allegedly saw the incident, while looking through two and sometimes three chain-link fences, from a substantial distance away.
5. Both parties, and all of the witnesses gave multiple statements to:
 - (a) responding police officers,
 - (b) the detective in a follow-up interviews,
 - (c) the investigator for the home owners insurance
 - (d) sworn pre-trial deposition.

The attorney questioned the validity of the defense witness statements based on inconsistency in their multiple statements, their distance from the incident, possible obstructions and the time of day.

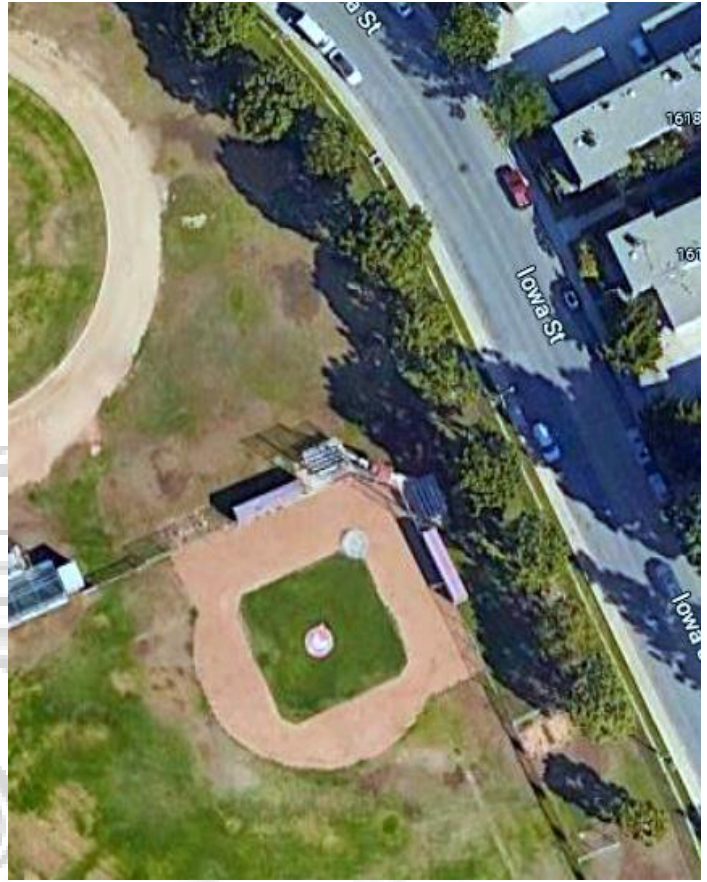
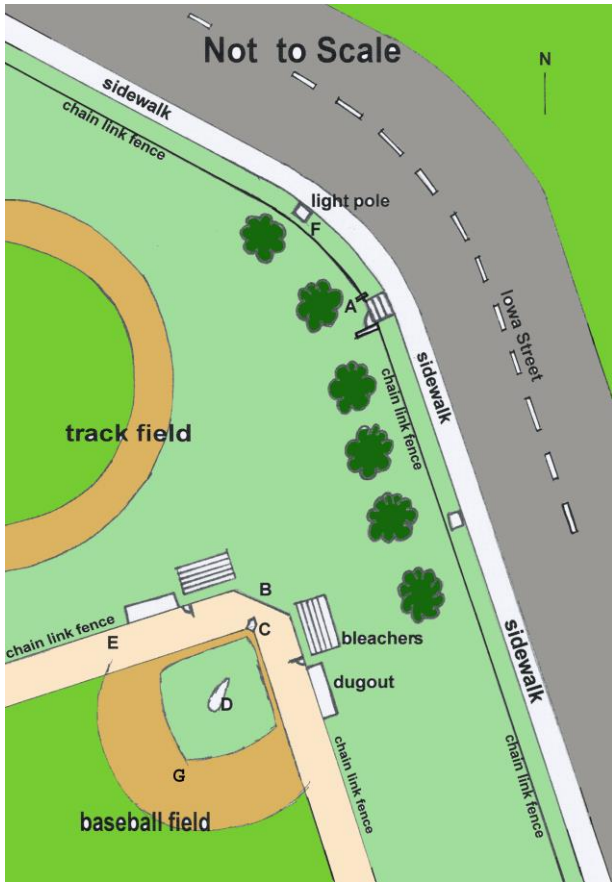
PREPARATORY RESEARCH

The first step was to read all of the witness statements and related reports, documenting the location of each witness at the time of the incident, as well as highlight the inconsistencies in their multiple statements.

Utilizing Google Earth to get a bird's-eye view of the area, I was able to pinpoint the location of the incident, as well as witness locations according to their statements.

I created a rough draft, NOT TO SCALE diagram using a free, very basic CAD program (2008), to accompany the Google Maps bird's eye-view screenshot of the area. The purpose was to mark where each witness was located at the time of the incident.

Since exact witness locations cannot usually be recreated in large open areas, their approximate distance from the closest fixed object was the most logical approach.



The incident occurred at dusk, roughly 6:15 pm, three years earlier (03-11-2005), so the next step was to check and confirm the outdoor weather and light conditions at the time of the incident.

The next step was to determine when sunset actually occurred. The U.S. NAVAL OBSERVATORY maintains extremely helpful, historical tables of the sun and moon data by city. According to the U.S. NAVAL OBSERVATORY chart, on March 11, 2005, the sun set at 1813 military time, or 6:18 pm. The U.S. NAVAL OBSERVATORY website is still active.

U.S. NAVAL OBSERVATORY

https://aa.usno.navy.mil/data/RS_OneYear

The following is a screenshot of the historical data gleaned from the U.S. Naval Observatory website, The screenshot was cited in my investigative report, and admissible as evidence per CA Evidence Code 1552(a).

<h2 style="text-align: center;">Table of Sunrise/Sunset, Moonrise/Moonset, or Twilight Times for an Entire Year</h2>																								
Location: 000 00, 00 00												COSTA MESA Rise and Set for the Sun for 2005						Astronomical Applications Dept. U. S. Naval Observatory Washington, DC 20392-5420						
Universal Time																								
Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		
Day	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set		
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m		
01	0600	1807	0610	1817	0609	1816	0601	1807	0554	1800	0554	1801	0600	1807	0603	1810	0557	1803	0546	1753	0540	1747	0545	1753
02	0600	1808	0610	1817	0609	1815	0600	1807	0554	1800	0554	1802	0600	1808	0603	1810	0556	1803	0546	1753	0540	1747	0546	1753
03	0601	1808	0610	1817	0609	1815	0600	1806	0553	1800	0555	1802	0601	1808	0603	1810	0556	1803	0546	1752	0540	1747	0546	1754
04	0601	1809	0610	1817	0608	1815	0600	1806	0553	1800	0555	1802	0601	1808	0603	1809	0556	1802	0545	1752	0540	1747	0547	1754
05	0602	1809	0611	1818	0608	1815	0559	1806	0553	1800	0555	1802	0601	1808	0603	1809	0555	1802	0545	1752	0540	1747	0547	1754
06	0602	1810	0611	1818	0608	1815	0559	1806	0553	1800	0555	1802	0601	1808	0602	1809	0555	1802	0545	1751	0540	1747	0547	1755
07	0603	1810	0611	1818	0608	1814	0559	1805	0553	1800	0555	1802	0601	1809	0602	1809	0555	1801	0545	1751	0540	1747	0548	1755
08	0603	1811	0611	1818	0607	1814	0559	1805	0553	1800	0555	1803	0601	1809	0602	1809	0554	1801	0544	1751	0540	1747	0548	1756
09	0604	1811	0611	1818	0607	1814	0558	1805	0553	1800	0556	1803	0602	1809	0602	1809	0554	1801	0544	1751	0540	1747	0549	1756
10	0604	1811	0611	1818	0607	1814	0558	1805	0553	1800	0556	1803	0602	1809	0602	1809	0554	1800	0544	1750	0540	1747	0549	1757
11	0604	1812	0611	1818	0607	1813	0558	1804	0553	1800	0556	1803	0602	1809	0602	1809	0553	1800	0543	1750	0541	1748	0550	1757
12	0605	1812	0611	1818	0606	1813	0557	1804	0553	1800	0556	1803	0602	1809	0602	1808	0553	1759	0543	1750	0541	1748	0550	1758
13	0605	1812	0611	1818	0606	1813	0557	1804	0553	1800	0556	1804	0602	1809	0601	1808	0553	1759	0543	1750	0541	1748	0551	1758
14	0605	1813	0611	1818	0606	1812	0557	1804	0553	1800	0557	1804	0602	1809	0601	1808	0552	1759	0543	1749	0541	1748	0551	1758
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21	0608	1815	0610	1817	0604	1810	0555	1802	0553	1800	0558	1805	0603	1810	0600	1806	0550	1756	0541	1748	0542	1750	0554	1802
22	0608	1815	0610	1817	0604	1810	0555	1802	0553	1800	0558	1806	0603	1810	0600	1806	0549	1756	0541	1748	0543	1750	0555	1802
23	0608	1816	0610	1817	0603	1810	0555	1802	0553	1800	0559	1806	0603	1810	0559	1806	0549	1756	0541	1748	0543	1750	0555	1803
24	0609	1816	0610	1817	0603	1809	0555	1801	0553	1800	0559	1806	0603	1810	0559	1806	0549	1755	0541	1748	0543	1750	0556	1803
25	0609	1816	0610	1816	0603	1809	0555	1801	0553	1800	0559	1806	0603	1810	0559	1805	0548	1755	0541	1747	0543	1751	0556	1804
26	0609	1816	0610	1816	0602	1809	0554	1801	0553	1801	0559	1806	0603	1810	0558	1805	0548	1755	0541	1747	0544	1751	0557	1804
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29	0610	1817			0601	1808	0554	1801	0554	1801	0600	1807	0603	1810	0558	1804	0547	1754	0540	1747	0545	1752	0558	1806
30	0610	1817			0601	1808	0554	1801	0554	1801	0600	1807	0603	1810	0557	1804	0547	1753	0540	1747	0545	1752	0559	1806
31	0610	1817			0601	1807			0554	1801			0603	1810	0557	1804			0540	1747			0559	1807

Add one hour for daylight time, if and when in use.

The website, WUNDERGROUND.COM was a fantastic resource, providing historical data regarding hourly temperature and weather conditions by city.

WUNDERGROUND

<https://www.wunderground.com/>

The following screenshots are from the WUNDERGROUND historical data that was cited in my report. Based on the historical data, we know that around 6:00 pm, the temperature was 59 degree Fahrenheit, and slightly cloudy. The WUNDERGROUND website is still active..

Temperature:			
Mean Temperature	61 °F / 16 °C	59 °F / 15 °C	
Max Temperature	66 °F / 18 °C	66 °F / 18 °C	95 °F / 35 °C (2007)
Min Temperature	56 °F / 13 °C	50 °F / 10 °C	44 °F / 6 °C (2006)
Degree Days:			
Heating Degree Days	4	8	
Month to date heating degree days		50	91
Since 1 July heating degree days		885	937
Cooling Degree Days	0	0	
Month to date cooling degree days		0	0
Year to date cooling degree days		9	0
Growing Degree Days	10 (Base 50)		
Moisture:			
Dew Point	55 °F / 12 °C		
Average Humidity	81		
Maximum Humidity	93		
Minimum Humidity	68		
Precipitation:			
Precipitation	0.00 in / 0.00 cm	0.09 in / 0.23 cm	0.17 in / 0.43 cm (2006)
Month to date precipitation	0.19	0.98	
Year to date precipitation	12.93	6.58	
Since 1 July precipitation	23.19	10.36	
Snow:			
Snow	0.00 in / 0.00 cm	-	- ()
Month to date snowfall	0.0		
Year to date snowfall	0.0		
Since 1 July snowfall	0.0		
Snow Depth	-		
Sea Level Pressure:			
Sea Level Pressure	29.95 in / 1014 hPa		
Wind:			
Wind Speed	5 mph / 7 km/h (SSW)		
Max Wind Speed	15 mph / 24 km/h		
Max Gust Speed	17 mph / 27 km/h		
Visibility	3 miles / 5 kilometers		



4:53 PM	60.1 °F / 15.6 °C	55.0 °F / 12.8 °C	83%	29.99 in / 1015.5 hPa	5.0
miles / 8.0 kilometers	SW	9.2 mph / 14.8 km/h / 4.1 m/s	-	N/A	Haze
5:53 PM	59.0 °F / 15.0 °C	55.0 °F / 12.8 °C	87%	30.00 in / 1015.9 hPa	4.0
miles / 6.4 kilometers	SW	6.9 mph / 11.1 km/h / 3.1 m/s	-	N/A	Partly Cloudy
6:53 PM	57.9 °F / 14.4 °C	55.0 °F / 12.8 °C	90%	30.01 in / 1016.2 hPa	3.0
miles / 4.8 kilometers	SW	3.5 mph / 5.6 km/h / 1.5 m/s	-	N/A	Scattered Clouds

FIELD INVESTIGATION

So at this point in the investigation, I know where the incident occurred, where the witnesses state they were located, and a good idea of what the weather and lighting conditions were like at the date and time of the incident.

The next step was to visit the location and identify fixed features that are in close proximity to where the witnesses stated they were located when they allegedly observed the incident. Then take measurements with a roller-tape and/or a tape measure, to ascertain the distance from the witness location to the point of the alleged battery.

NOTE: With large locations like this case, it's always helpful to have a second person with you to help hold the tape measure, take notes, document photographic evidence, etc. Measurements were taken with a 100 ft measuring tape and with a rolling measuring wheel.

The two main issues with the witness observations from the baseball field to the street was (1) the distance and (2) obstacles ... were they looking through multiple chain-link fences and poles when they allegedly observed the incident. It's critically important to make certain the measurements are accurate from the nearest fixed objects from the point of the incident and the nearest fixed object for the witnesses. Once that's established, you can complete a graph or a legend for your report upon return to the office. At a later time, the attorney can question the witnesses and ask their approximate distance from the nearest fixed feature ... "How far were you from 1st base?"

With reference to the diagram below, the incident occurred on the sidewalk indicated by the red "X", approximately 15 feet southeast of the concrete based, light pole. One of the key defense witnesses was located at the pitcher's mound, marked with a magenta colored "W1", where they stated they observed the incident.

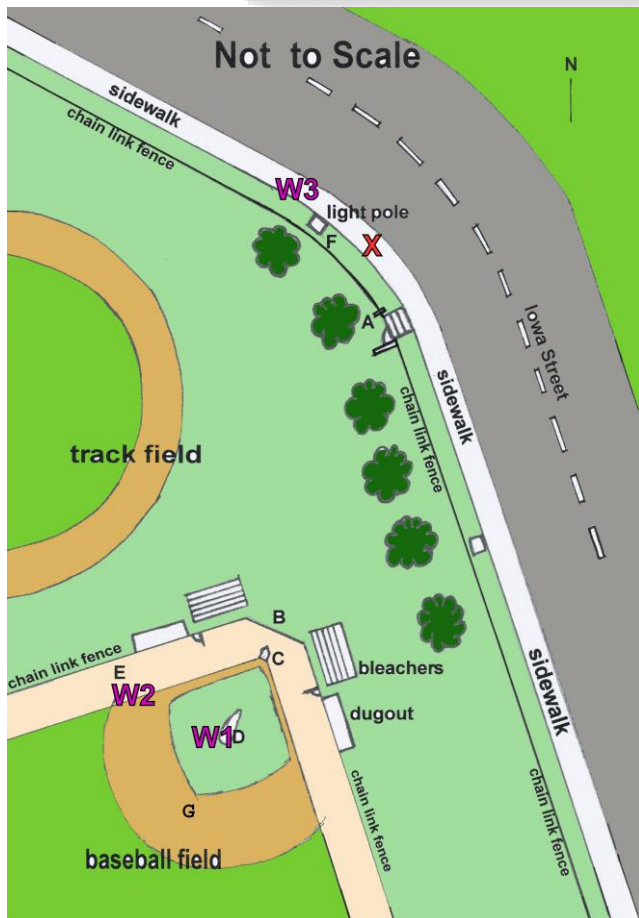


DIAGRAM AND MEASUREMENTS:

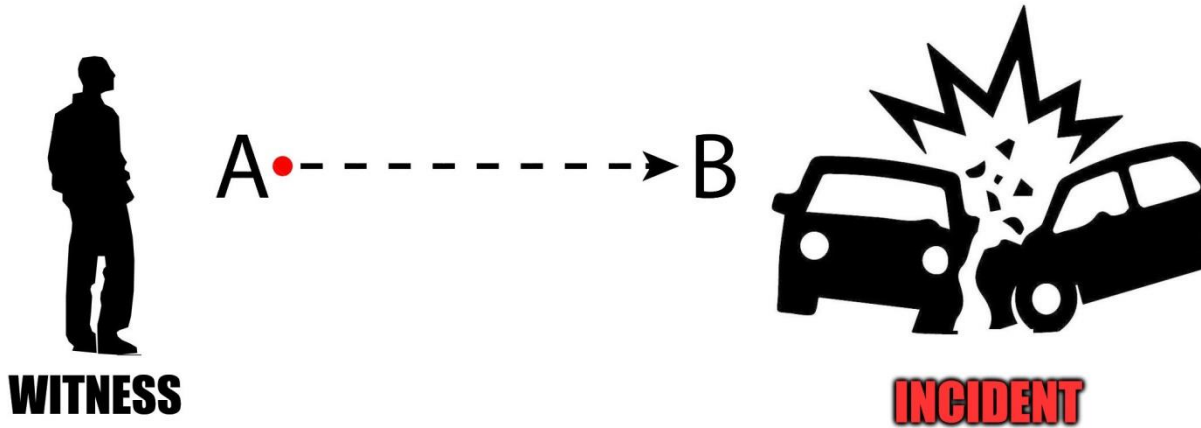
The legend for the diagram is as follows:

DESIGNATION	LOCATION
A	concrete steps at pedestrian gate
B	chain-link fence around ball field
C	home plate on ball field
D	pitcher's mound on ball field
E	north dugout area on ball field
F	street light lamp post

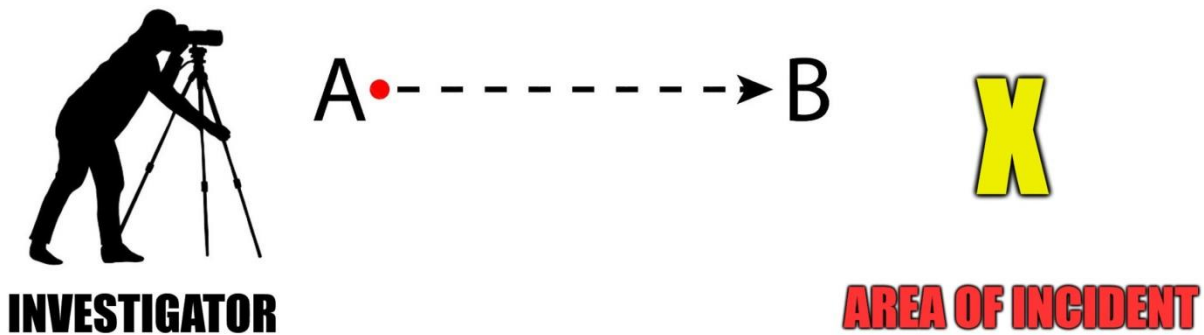
The following grid details the measurements and the photographs taken.

MEASURE FROM	MEASURE TO	DISTANCE	EVIDENCE IMAGE
A	B	122' 2"	n/a
B	C	25' 7"	
B	D	69' 4"	
A	E	154' 2"	
A	F	59' 9"	

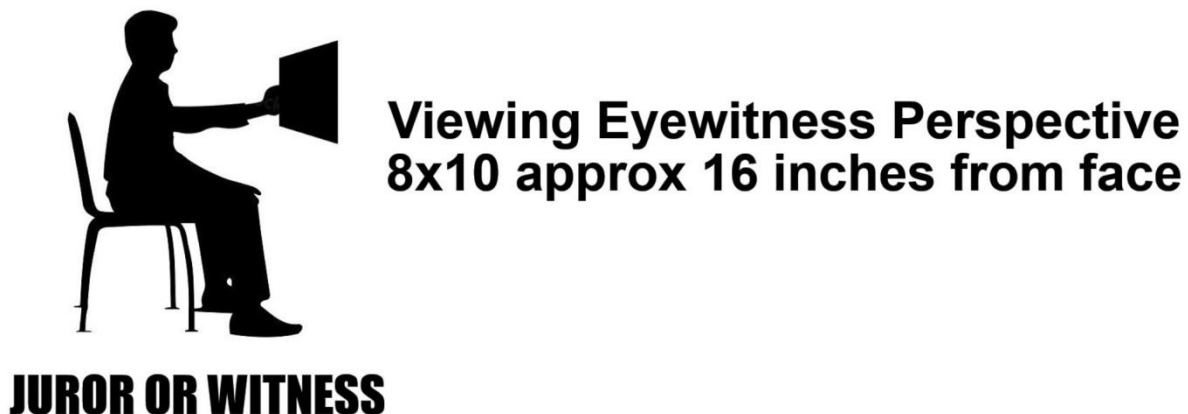
The following three images are a visual concept of recreating the eyewitness perspective through photography.



Using the correct reference points, the investigator attempts to recreate the witness perspective, using 43mm lenses focal length on a full frame camera to replicate the naked eye view.



When taken with the proper lenses settings, then printed in 8x10, the witness or juror can hold a photograph in front of them and see the correct eyewitness perspective with the naked eye view.



After documenting the measurements from fixed points, the next step was to photograph the eyewitness perspective.

NOTE: Equipment Used –

DSLR Canon with APS-C sensor

Canon 18mm x 55mm focal length zoom lenses set to manual focus,

Sunpack tripod

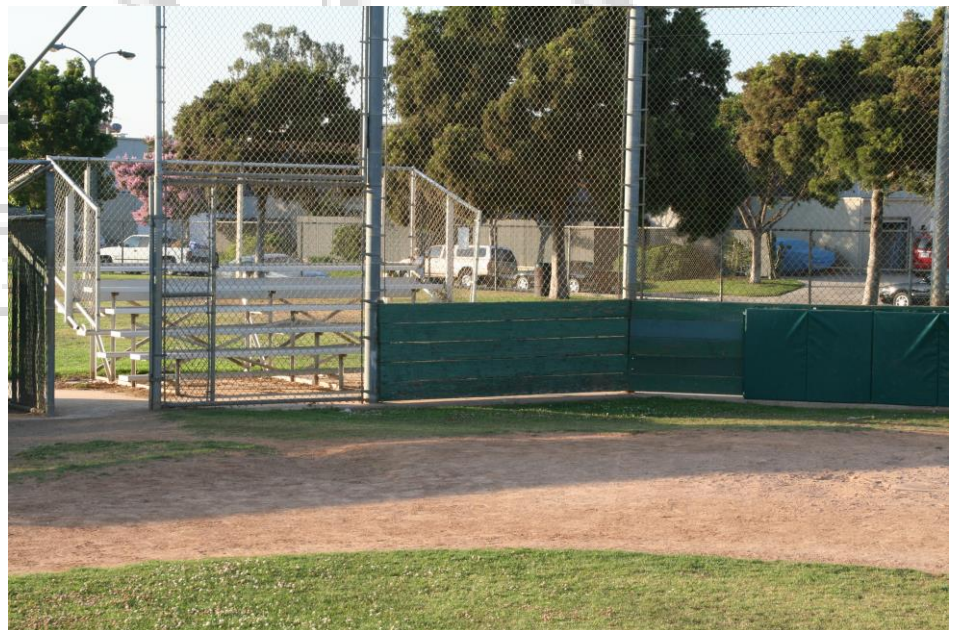
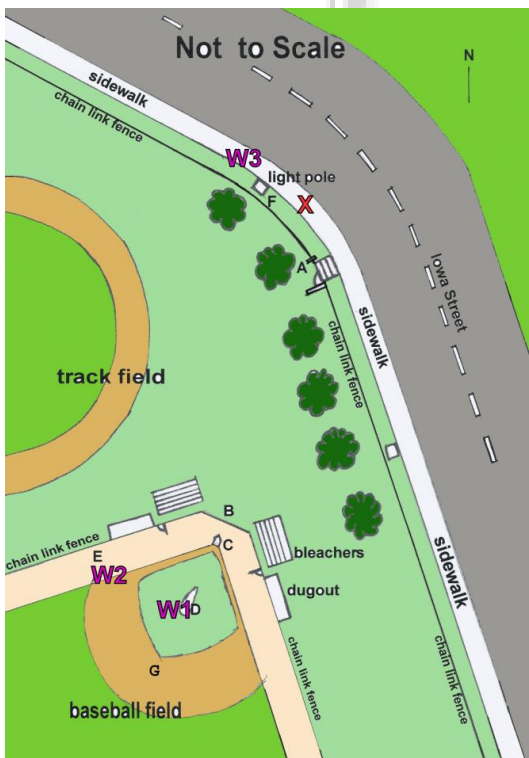
Shutter Release Cable Remote.

Since the camera used has an APS-C Reduced Sensor with a 1.6 crop factor, the lenses focal length was set at 27mm to accurately reflect the eyewitness perspective of a Full Frame camera with a lenses focal length of 43mm. ($43\text{mm} \div 1.6 = 27\text{mm}$)

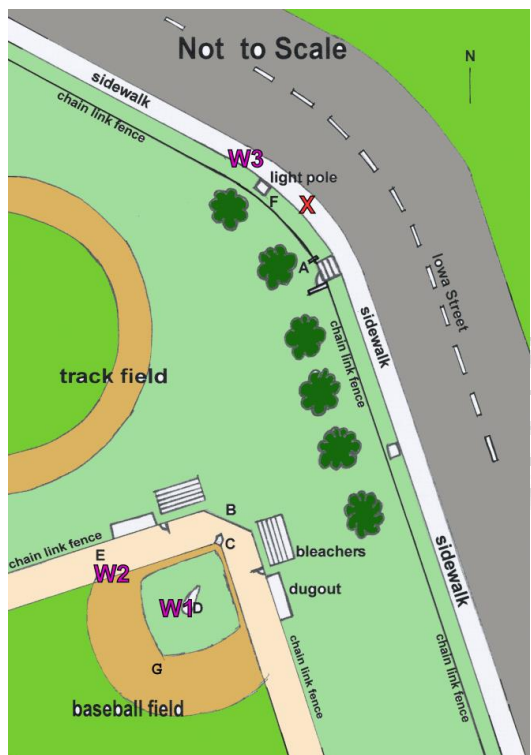
W-1, Defense Witness (at the Pitcher's Mound)

With reference to the diagram and legend on Page 7, the distance from the pitcher's mound (D) to the backstop fence (B), was 69' 4". The distance from the backstop fence (B) to the pedestrian gateway (A) by the sidewalk is 122' 2". The distance from the pedestrian gateway (A) to light-post (F) is 59' 9". The total distance from fixed points was 251 feet, while approximated line of sight distance from the witness to the incident was actually about 235 feet.

I took two sets of photos. The first was in bright daylight for clarity purposes, and the second was just after sunset under similar lighting conditions as the day of the incident.



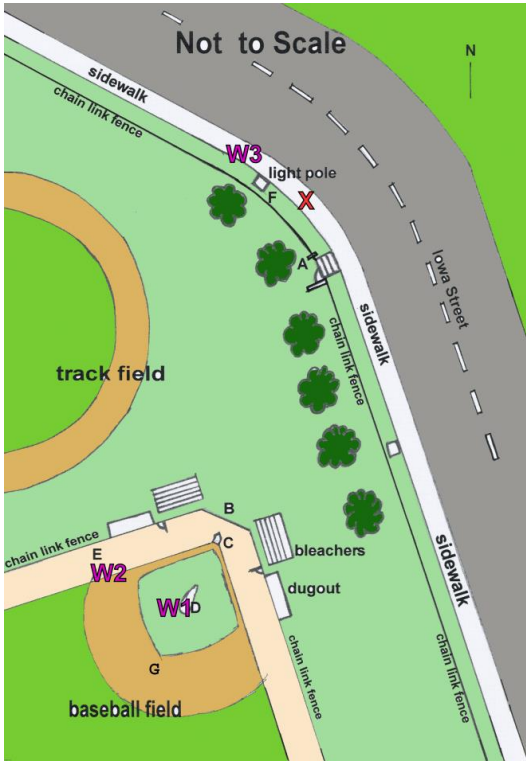
Below is the second image taken at dusk from the pitcher's mound, the street lights are not illuminated yet. The plaintiff (client) can be seen in the center of the image wearing a black jacket, with her arms extended horizontally, with one hand open and the other hand in a clenched fist.



The photos of the key Defense Witness Eyewitness Perspective, in conjunction with the diagram, measurements and the multiple witness statements, provided the attorney with the essential information needed to raise doubt with the jury.

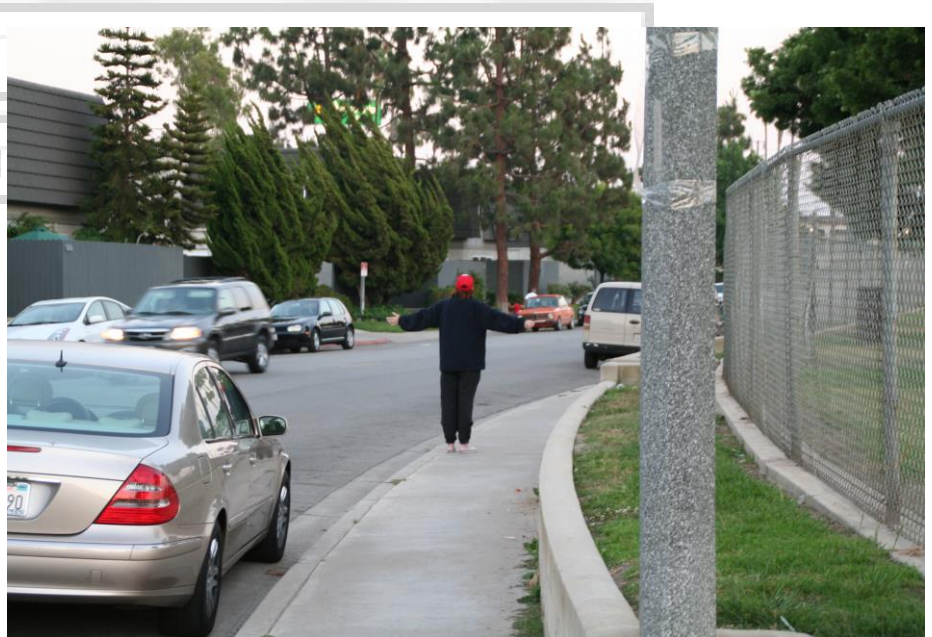
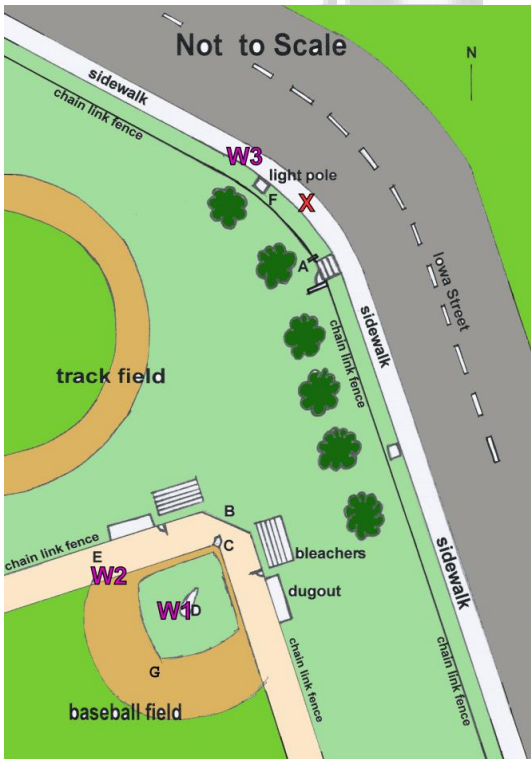
W-2, Defense Witness (located at 1st Base)

An additional defense eyewitness (W2) was at 1st base gave multiple statements, stating he did not see the defendant punch the plaintiff. Based on the following image from 1st base, it was highly doubtful that he could see anything, ... he was quickly discredited. The following image was taken from the 1st base area, in the direction of where the incident occurred. As you can see in the following image, the eyewitness perspective from 1st base was obstructed by multiple fences as well as green, vertical privacy slats in the dugout, and the set of bleachers.



W-3, Independent Plaintiff Witness (on Sidewalk)

The lone plaintiff witness (W3) was walking their dog, southbound on the sidewalk, and saw the incident at a closing range from 30 to 20 feet. The independent eyewitness did not know either party when the incident occurred. The witness gave three consistent statements and testified under oath at her deposition, supporting our client. The following image is from the eyewitness perspective.



I always anticipate that I will have to testify to my work therefore, I write a very detailed, comprehensive report supported by the evidence. If the facts and evidence support your well written report, it's not uncommon for a case to settle. However, if you are called to testify a year or two later, documentation of the smallest of details matter since as investigators we only get one shot to get it right.

There are several factors of your work you will need to address in your report, aside from the investigation itself. Very similar to this article, you will want to lay out what your assignment was. In my case example, the interviews were already done, so my assigned task was to review the numerous statements looking for contradictions and to document the Eyewitness Real Perspective at the location of the incident. If you do interview eyewitnesses, take a printed diagram of the scene with you and have them place an "X" where they were standing when they saw the incident, then sign it.

In the narrative of your report, you cannot document or testify what someone else may or may not have seen. You can state that based on the witness location, your photo evidence is a fair representation of what you, the investigator saw under similar circumstances.

Once your investigative report narrative is complete, you will need document the equipment and the settings that you used. Detail the camera brand, model and settings, the lenses brand, model and settings, etc. In addition to your photo evidence list, detail in your report how the photo evidence was processed, where are the original images stored, were any steps taken to lighten or darken the images for greater contrast, etc.

You should recommend the print size of the image, based on the camera sensor size and lenses setting, and viewing distance for maintaining the correct Eyewitness Perspective. Normally, 8x10 picture evidence of an image taken with a Full Frame camera, and a lenses focal length of 43mm, should be viewed or held approximately 16 inches from your face for correct Eyewitness Perspective.

I find it helpful to reference the appropriate evidence codes for submitting copies of photographs and screenshot copies of information gleaned from the internet. I attached the appropriate Evidence Codes for submitting copies of Photographic Evidence and Printed Representations of Information on a Computer, for screenshots of the weather conditions.

CONCLUSION

In closing, the basic forensic photography training and detailed investigation in my case provided the attorney with the necessary tools to quickly and easily discredit the defense eyewitness testimony.

RULES OF EVIDENCE

California Evidence Code 1552

<https://codes.findlaw.com/ca/evidence-code/evid-sect-1552/>

CA Evidence Code 1552(a)

(a) A printed representation of computer information or a computer program is presumed to be an accurate representation of the computer information or computer program that it purports to represent. This presumption is a presumption affecting the burden of producing evidence. If a party to an action introduces evidence that a printed representation of computer information or computer program is inaccurate or unreliable, the party introducing the printed representation into evidence has the burden of proving, by a preponderance of evidence, that the printed representation is an accurate representation of the existence and content of the computer information or computer program that it purports to represent.

California Evidence Code 1553

<https://codes.findlaw.com/ca/evidence-code/evid-sect-1553/>

CA Evidence Code Section 1553 -

(a) A printed representation of images stored on a video or digital medium is presumed to be an accurate representation of the images it purports to represent. This presumption is a presumption affecting the burden of producing evidence. If a party to an action introduces evidence that a printed representation of images stored on a video or digital medium is inaccurate or unreliable, the party introducing the printed representation into evidence has the burden of proving, by a preponderance of evidence, that the printed representation is an accurate representation of the existence and content of the images that it purports to represent.

Federal Rules of Evidence, Article X

<https://www.rulesofevidence.org/article-x/>

The Federal Rules of Evidence, Article X – Contents of Writings, Recordings and Photographs, addresses photographic evidence and duplicates as well.

Federal Rules of Evidence, Article X – Contents of Writings, Recordings, and Photographs

Rule 1001(c) - Definition

A “photograph” means a photographic image or its equivalent stored in any form.

Rule 1002 – Requirement of the Original

An original writing, recording, or photograph is required in order to prove its content unless these rules or a federal statute provides otherwise.

Rule 1003 – Admissibility of Duplicates

A duplicate is admissible to the same extent as the original unless a genuine question is raised about the original’s authenticity or the circumstances make it unfair to admit the duplicate.

ABOUT THE AUTHOR

Randall Alexander has been a California state licensed investigator since 1999, specializing in Civil Litigation and Family Law Litigation. In 2008, Randall was recognized as a Subject Matter Expert by the Bureau of Security and Investigative Services, a division of the California Department of Consumer Affairs. He has testified in civil and criminal matters in both state and federal courts.

Randall earned his Associate of Arts in Paralegal Studies from the Southern California College of Business and Law (ABA approved) where he completed coursework in Torts & Personal Injury, Civil Litigation, and Civil Procedures. Additionally, Randall completed undergraduate coursework in Administration of Justice. Additional training in photography includes:

- Crime Scene Investigations - POST Advanced Officer Training, Fullerton College
- Crime Scene Investigations – POST Administration of Justice, Golden West College,
- Crime Scene Investigations – POST San Diego Police Academy
- Forensic Photography as Evidence - George Reiss, Forensic Photographer, NBPD
- Digital SLR Photography – North Orange County Regional Occupational Program (ROP)
- B&W Photography (35mm SLR) – Golden West College, Huntington Beach