



Wach1design
Perfecting Surveillance

Understanding Scene Waching and Bonding

WACH
IS TO
SIGHT
AS
MACH
IS TO
SOUND.



Wach1design
Perfecting Surveillance

SECURITY GUARD

Designers typically treat each camera as if it were a security guard watching over their post.



CAMERAS ARE NOT EYES

Human eyes have a resolving power of approximately five hundred seventy-six million pixels.

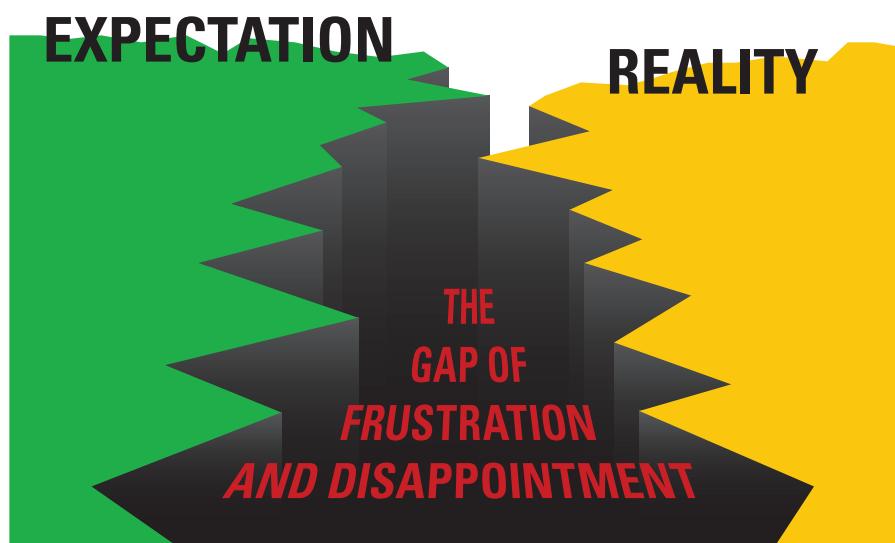
Modern security cameras have between two and five million pixels.

Even the best security camera, positioned where a guard might stand, will only be able to resolve one percent of the detail the guard could see.



Missing ninety-nine percent of the detail creates an expectation gap.

Our core mission is eliminating this gap.

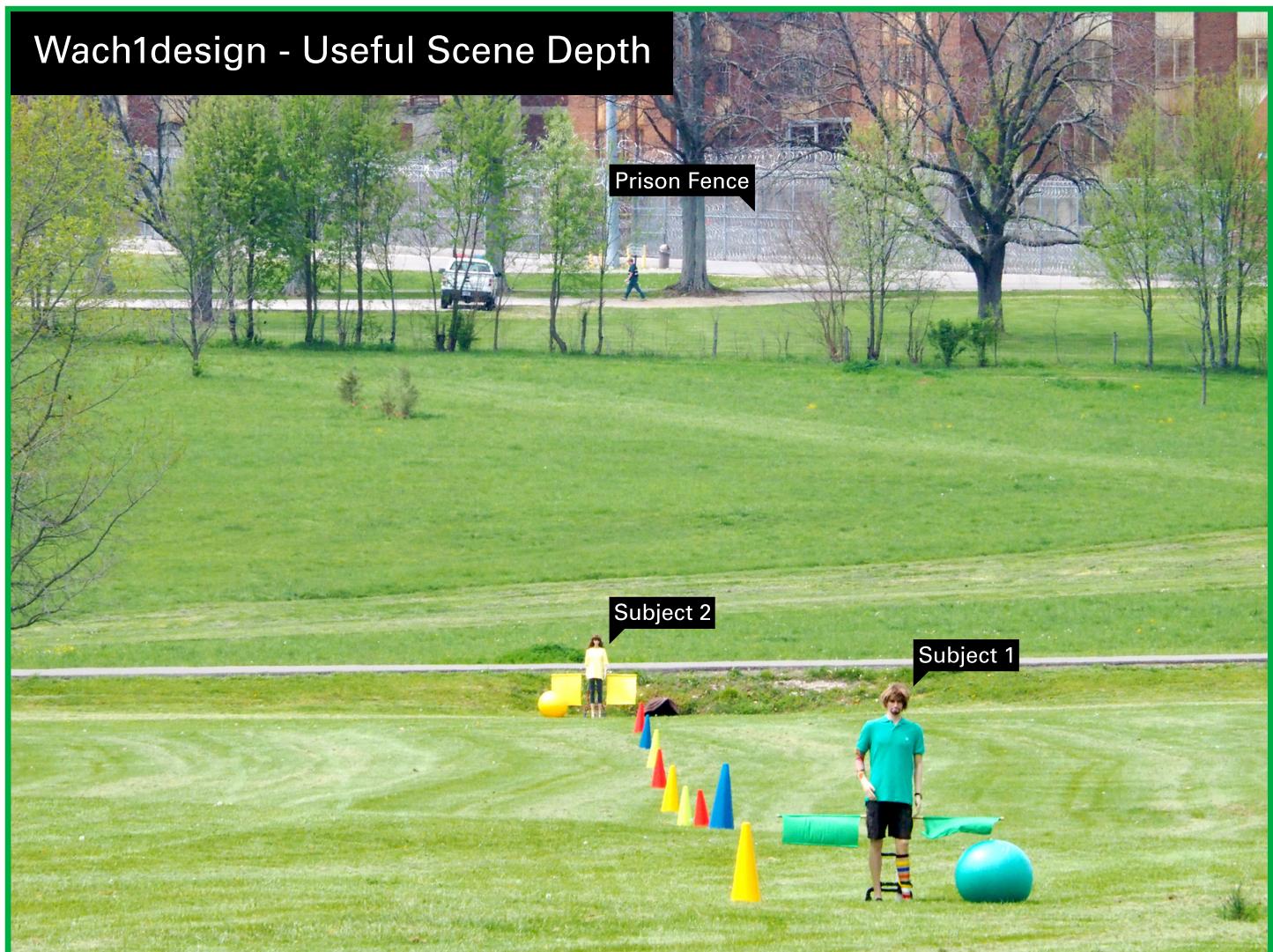


IMMENSE SCENE DEPTH

Wach1design images provide tremendous usable depth. For example, the distance between Subject 1 and Subject 2 is 900 ft. The distance between Subject 1 and the Prison Fence is 2,400 ft.



All props are in identical locations in both images. The left image shows how a typical camera design would render the scene, the right image shows a Wach1design.



OPTICAL HYDRAULICS®

Wach1design has harnessed the power of Optical Hydraulics®. Just as fluid hydraulics allows a single machine to do the work of many individual workers, Optical Hydraulics® allows one camera to do the work of many.

The images on the next page show coverage of a 75,000 ft² parking lot. A typical design requires nine cameras. A Wach1design allows the entire scene to be covered by a single camera.

Pre-Industrial Revolution

Company profit based on
maximizing number of
billable hours



Post-Industrial Revolution

Company profits based on
maximizing operational
efficiency

Fluid Hydraulics





Pre-Wach1design Revolution

Company profits based on maximizing number of cameras sold and/or deployed



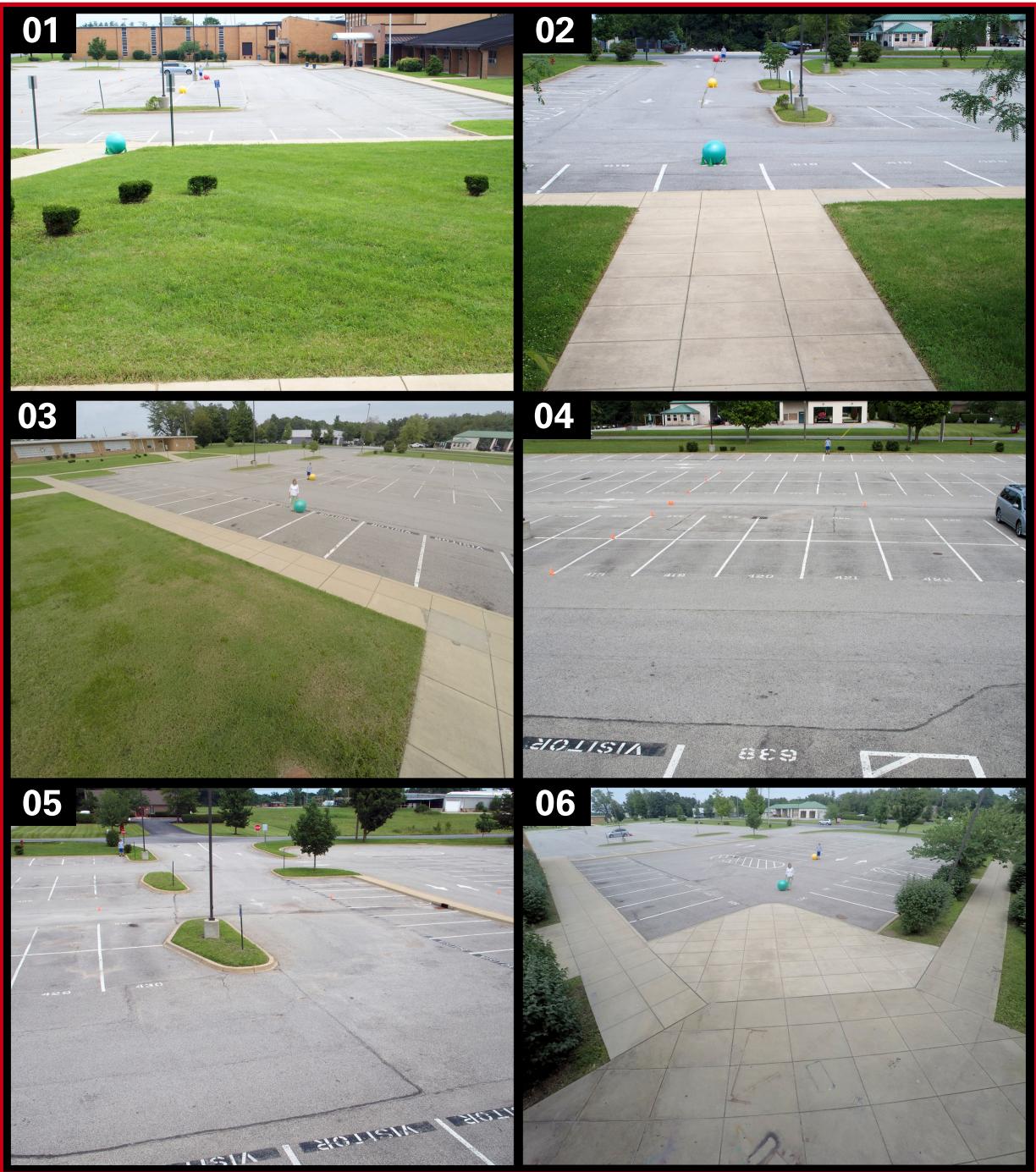
Post-Wach1design Revolution

Wach1design's profits are based on maximizing surveillance design efficiency

Optical Hydraulics®

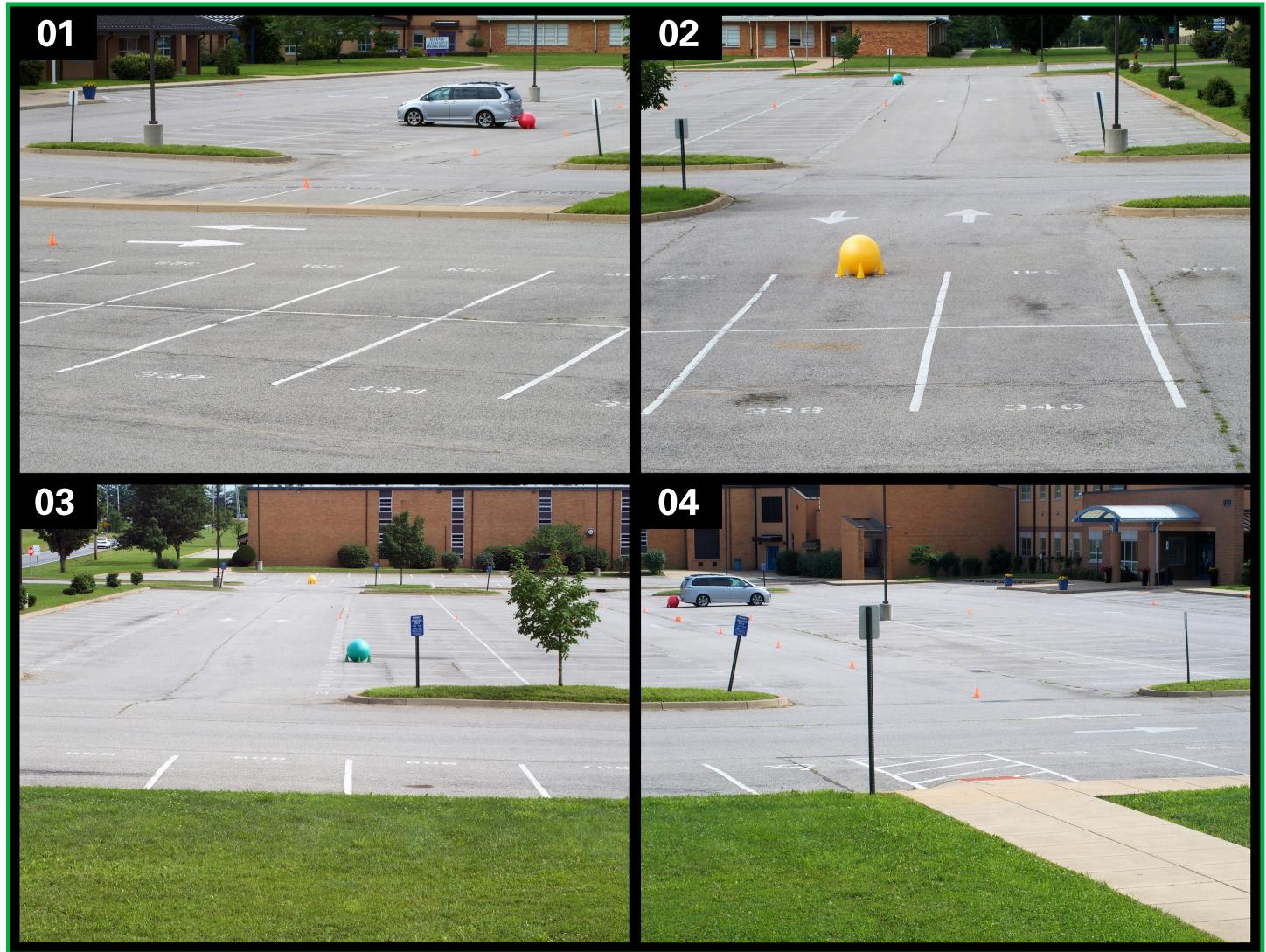
INCOHERENT VIEWS

Traditional design results in disjointed views which make it difficult for the SOC (Security Operations Center) officers to gain immediate situational awareness.



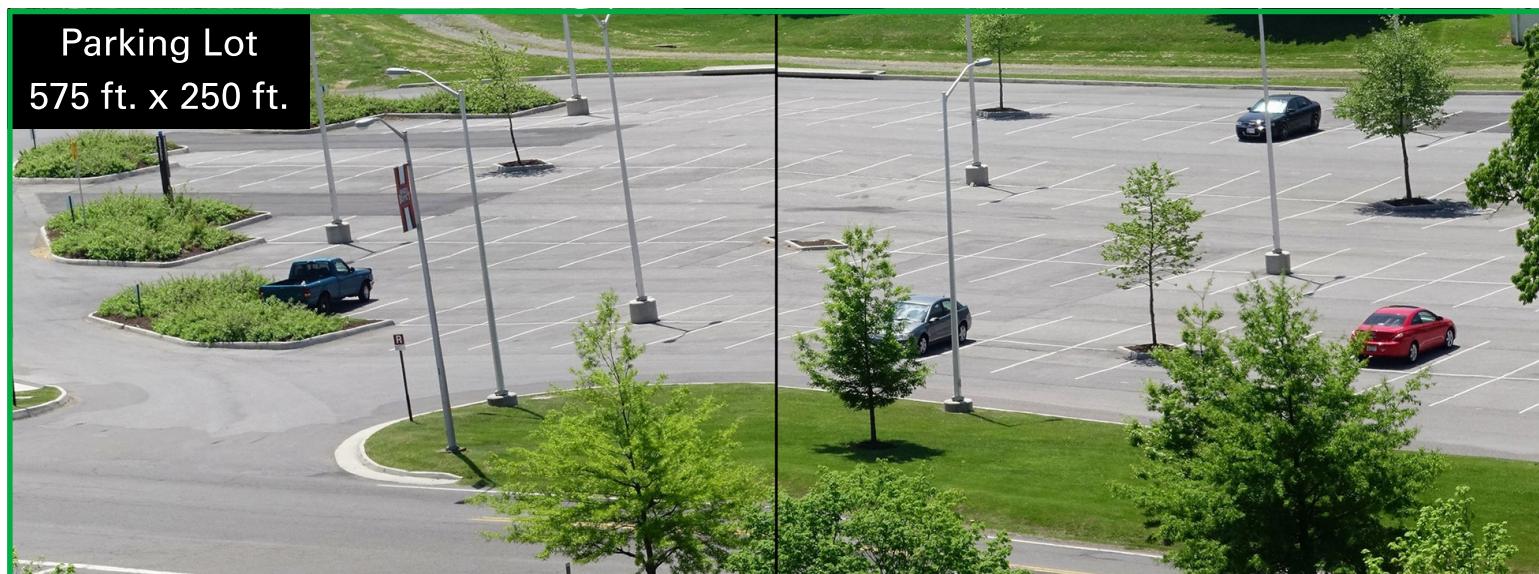
COHERENT VIEWS

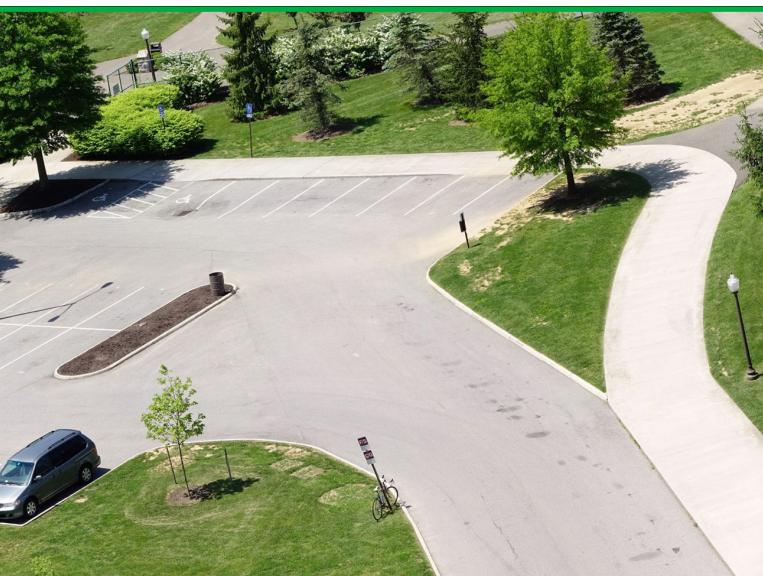
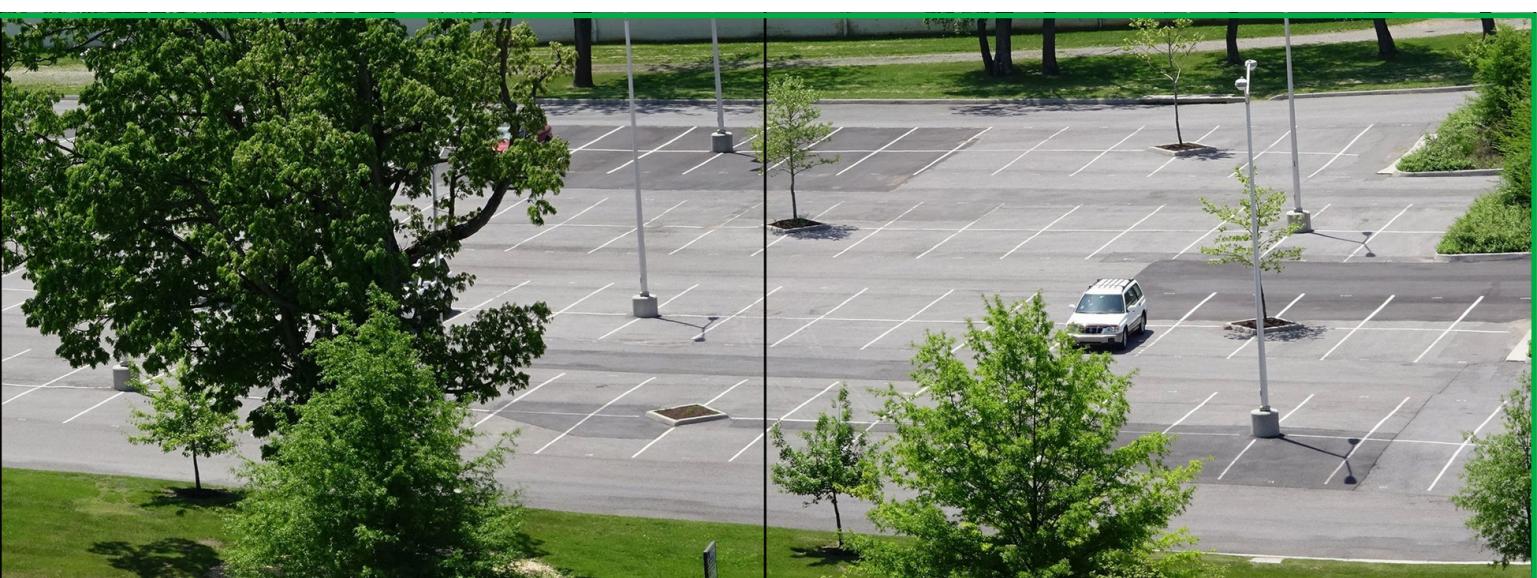
In addition to the obvious savings in camera and cabling cost, Wach1design provides a coherent and harmonious scene for officers in the SOC.



SCENE BONDING

Wach1design's unique scene bonding allows for unprecedented views, providing instant clarity and situational awareness, in both live and archived video for your security team.





Note: 250,000 ft² of parking lots
covered by 10 cameras with
recognition-level detail.



COST SAVING DESIGN

At Wach1design our goal is effective and efficient design. This is a typical design that required 44 cameras to cover the entrances to 11 warehouses.



Wach1design was able to reduce the camera count to 30 cameras. Even with the camera count being reduced by 32%, the useful coverage was more than doubled.



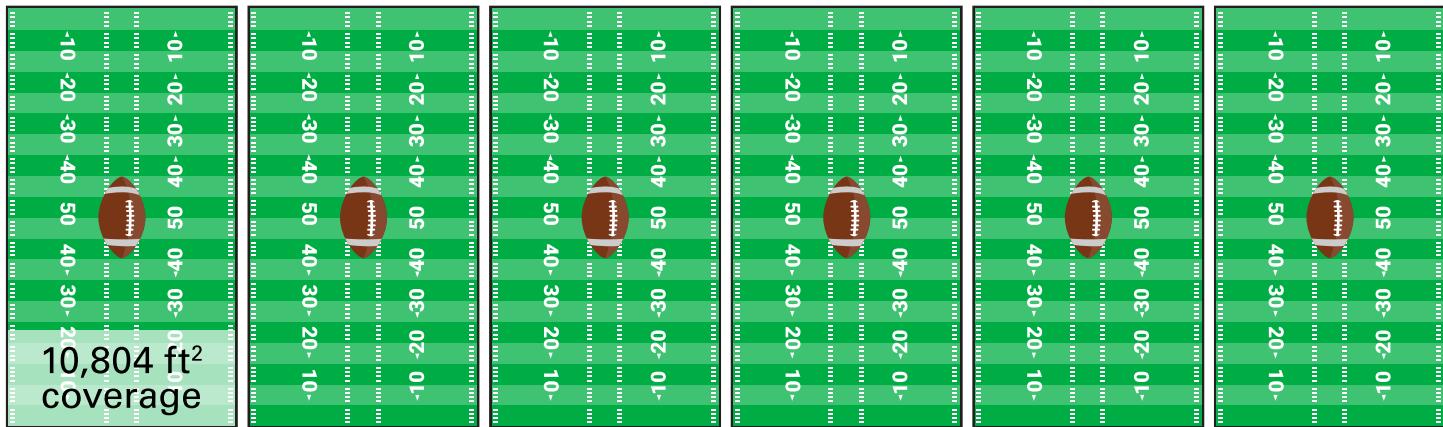
TRADITIONAL DESIGN COVERAGE

About 95% of the security cameras that are installed provide less than 30,000 ft² of useful coverage. (30,000 ft² is approximately 60% of a single football field.)

The smaller the coverage area provided per camera, the greater the number of cameras required to secure the entirety of your campus.

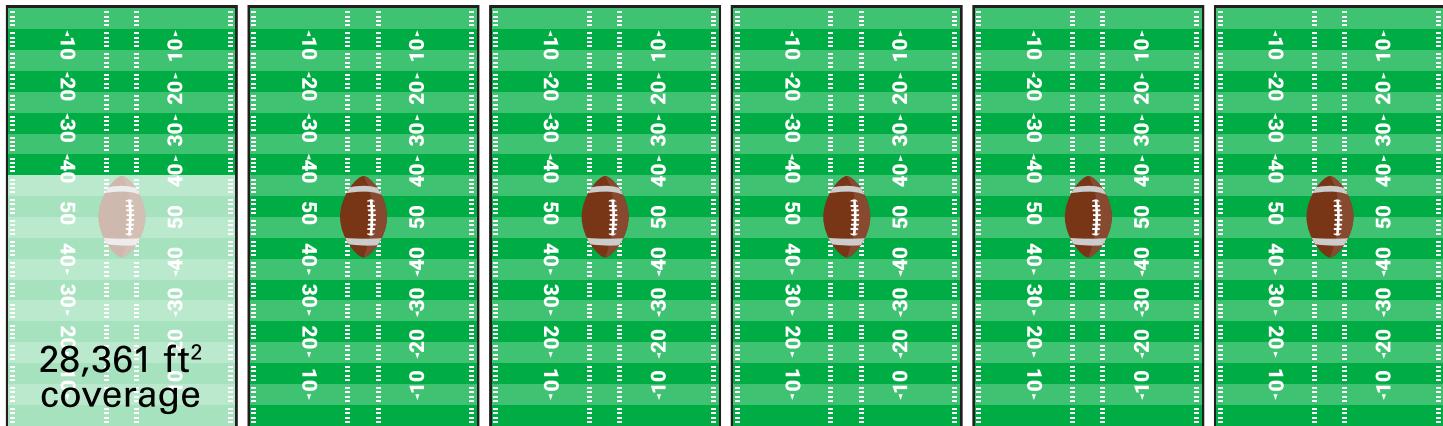
Wach Factor of 0.4

Approx. Install Price **40¢ ft²**



Wach Factor of 1.0

Approx. Install Price **15¢ ft²**



Note: All calculations based on a 5 MP camera with a minimum resolution of 12.5 pixels per foot and an install price of \$4,500.00.

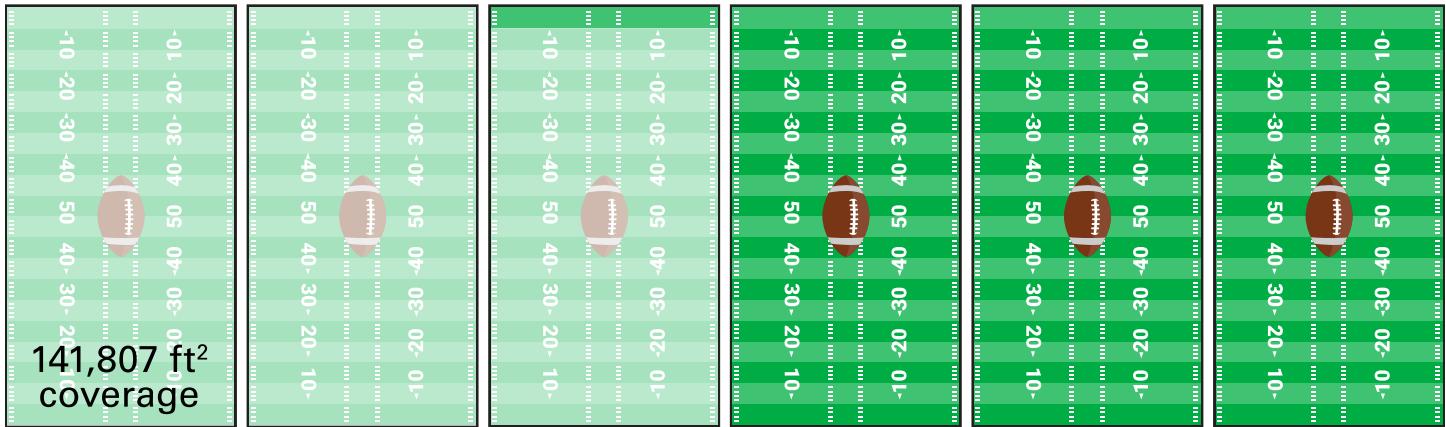
WACH1DESIGN COVERAGE

By harnessing the power of Optical Hydraulics® our designs are much more efficient. This greatly reduces the security camera count.

Wach1designs often result in coverage area up to 300,000 ft² per camera. (300,000 ft² is approximately the same area as six football fields.)

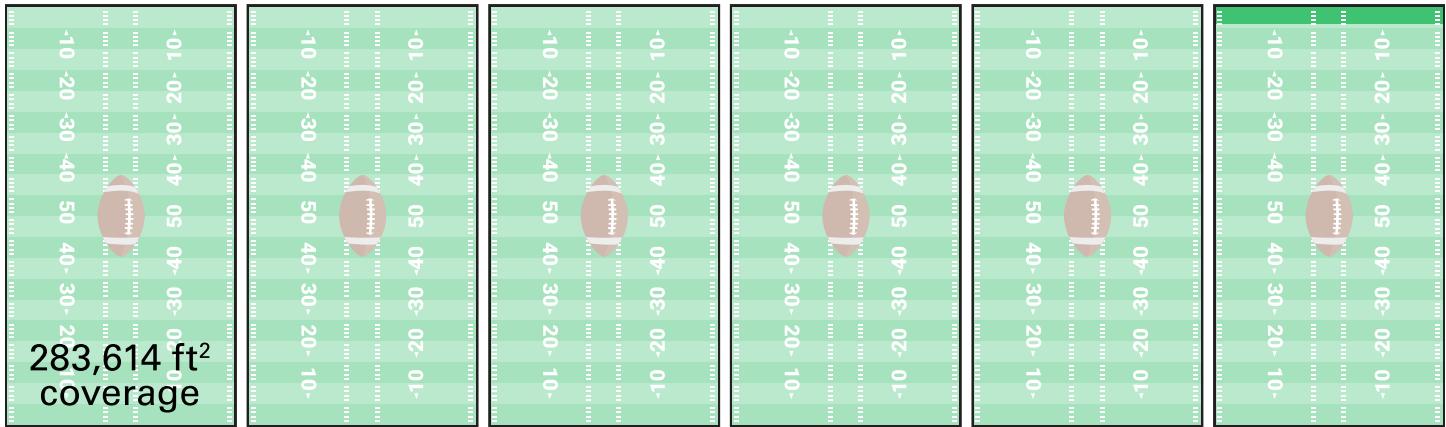
Wach Factor of 5.0

Approx. Install Price **03¢ ft²**



Wach Factor of 10.0

Approx. Install Price **1.5¢ ft²**



Note: All calculations based on a 5 MP camera with a minimum resolution of 12.5 pixels per foot and an install price of \$4.500.00.

DELIVERABLES

Camera 40 | View

Camera View

This is what will be displayed in the SOC once the system is deployed.



Camera 40 | Viewshed | 40° FoV

Camera Viewshed

The viewshed allows you to see the area covered by the camera.

The specified field-of-view allows the integrator to calculate the correct lens for the camera.



Wach1design's project book is useful internally, for RFP (Request for Proposal), project management and close-out documentation.

Camera 40 | Installation Location

Installation

The location information is useful for both the architectural review team and the installation crew.

If the camera is to be installed on an existing building, the building will be in the photograph.



Camera 40 | Associated Equipment

Typical Equipment

This is useful for understanding how the camera may look once it is deployed.

It also shows the installation crew the cabling which is needed at that particular location.

Weatherproof Housing



Lens



5MP Camera

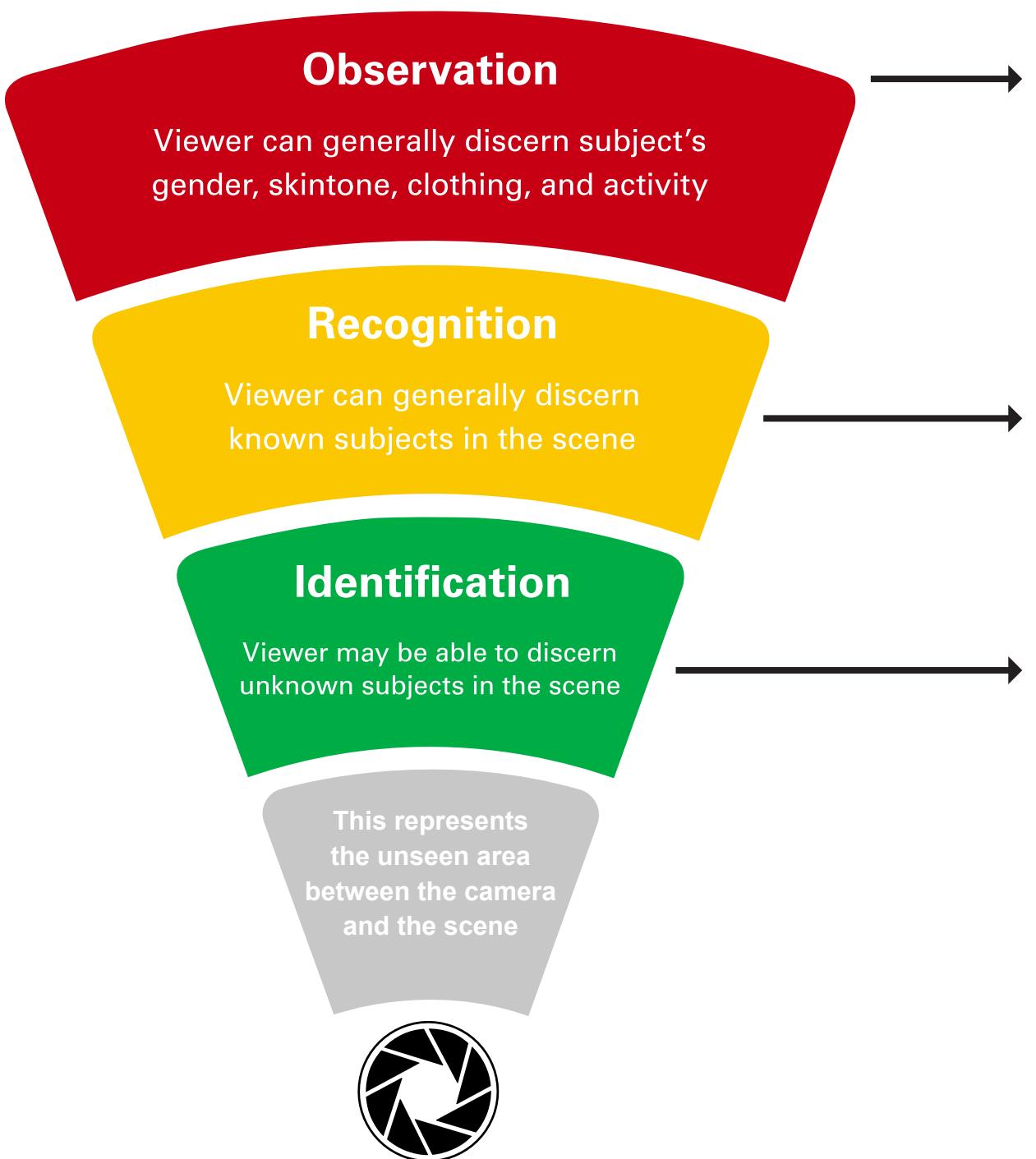


CAT6 for PoE



18/2 for 24VAC

UNDERSTANDING THE CAMERA VIEWSHED





**Between
12½ and 20
Pixels Per Foot
Resolution**



**Between
20 and 50
Pixels Per Foot
Resolution**



**Greater
Than 50
Pixels Per Foot
Resolution**

In a perfect world one would like to have the entire scene provide identification (green) level detail. While this is possible, it is likely to be cost prohibitive.

Our intent is to make sure you appreciate both the advantages and limitations of security cameras.

We strive to understand your security needs then design to your specifications.

LIGHT LEVEL SURVEY

Cameras need a minimum level of illumination to be useful at night. A light level survey is the most effective way of determining where you may need additional lighting.



The parking lots above illustrate one of our lighting surveys. The colored spheres indicate light levels. These levels are explained on the following page.



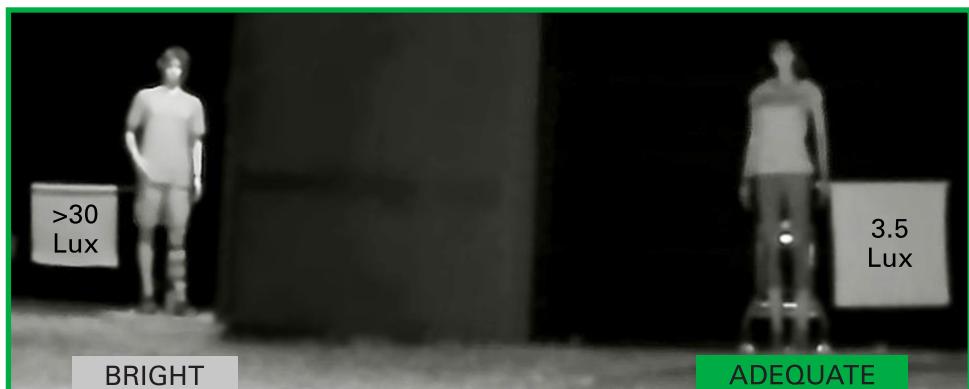
**Highly
Reflective
Surfaces**



**Light
Colored
Clothing**



**Motion
& Human
Forms**



**Actions
& Details**

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