



# **GRIDSMART<sup>®</sup> INTERSECTION DESIGN GUIDE**

03/12/2018

# Simple Intersection Design - Corner Mount

Most four-way intersections can be actuated with a single fisheye camera mounted on the corner at least 30' (9m) above the roadway. Larger intersections may require two cameras.



See the following page for a complete equipment list for this intersection.



Minimum height requirements are easily achieved using existing infrastructure.



# Corner Mount Equipment List



## GS-3-CAM

- GRIDSMART® Bell Camera

## GS-3-SMC or SMCH

- Swivel Bracket provides dual plane adjustment for leveling
- Quick Connect Junction Box
- Terminal block Junction Box (GS-3-SMCH)

## GS-3-A58

- 58" Mounting Arm with 90° bend

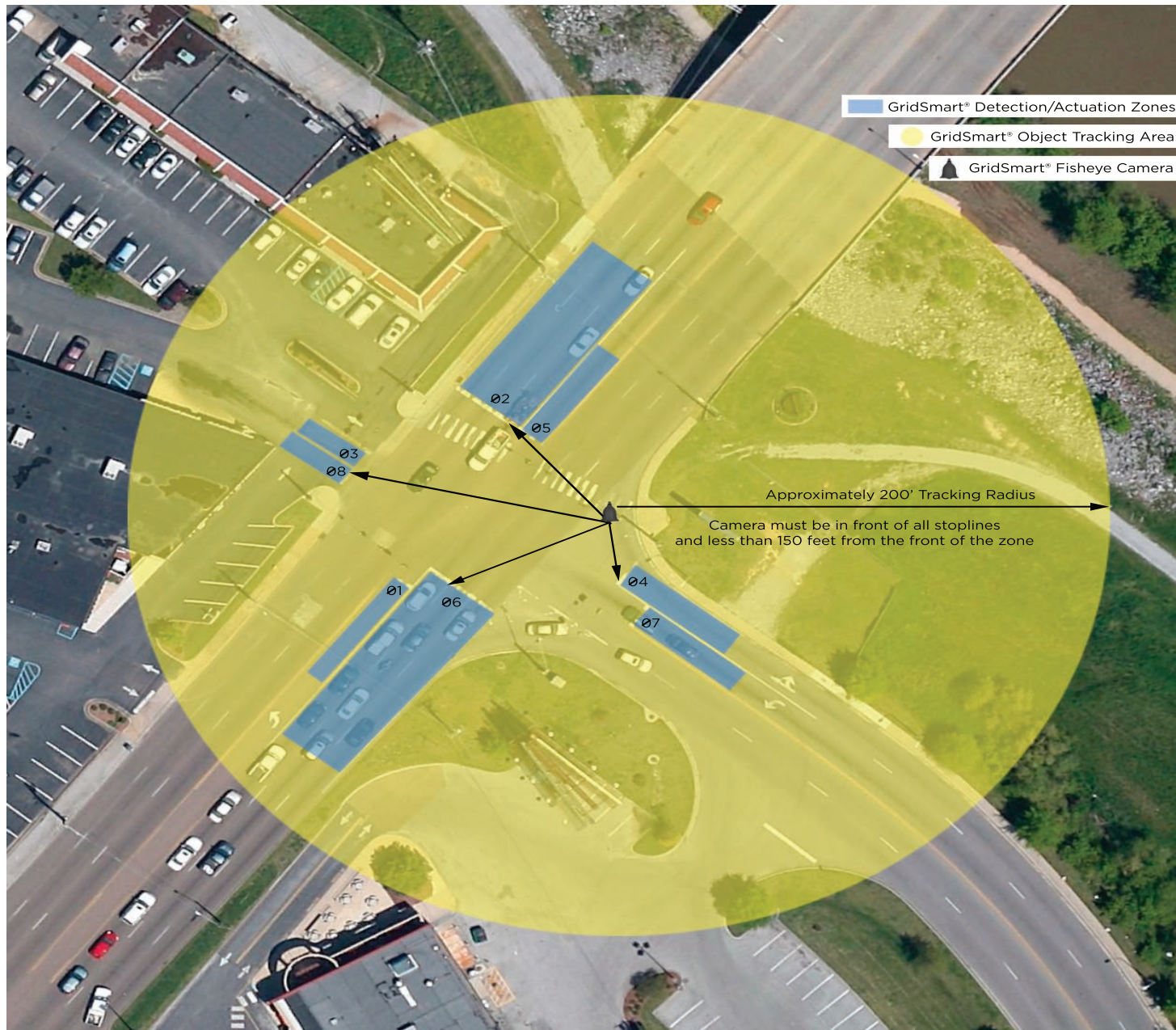


## GS-3-TEN

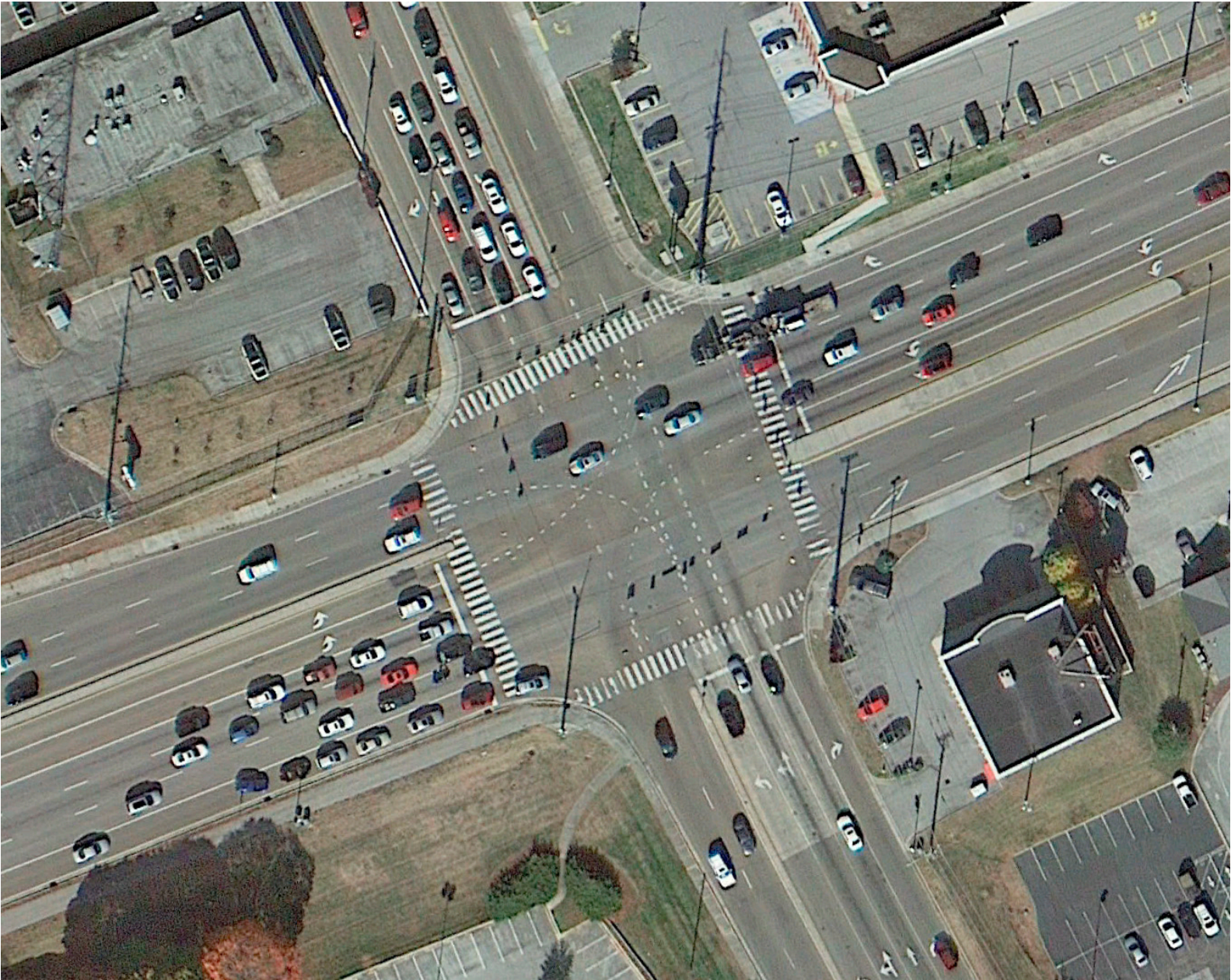
- Astro-Brac Tenon (AB-3004) or equivalent

For single camera installations, the GRIDSMART® Bell camera should be mounted at least 30 feet above the roadway, no more than 75 feet from the center of the intersection, and no more than 150 feet from the front of the furthest stopline. **Camera MUST be in front of all stoplines.**

# Simple Intersection Design - Coverage & Detection



# Large Intersection Design - Dual Cameras



# Large Intersection Design - Dual Cameras



# Bell Camera Corner Mount Equipment List



## GS-3-CAM

- GridSmart® Bell Camera

## GS-3-SMC or SMCH

- Swivel Bracket provides dual plane adjustment for leveling
- Quick Connect Junction Box
- Terminal block Junction Box (GS-3-SMCH)

## GS-3-A58

- 58" Mounting Arm with 90° bend



## GS-3-TEN

- Astro-Brac Tenon (AB-3010) or equivalent

### Note.

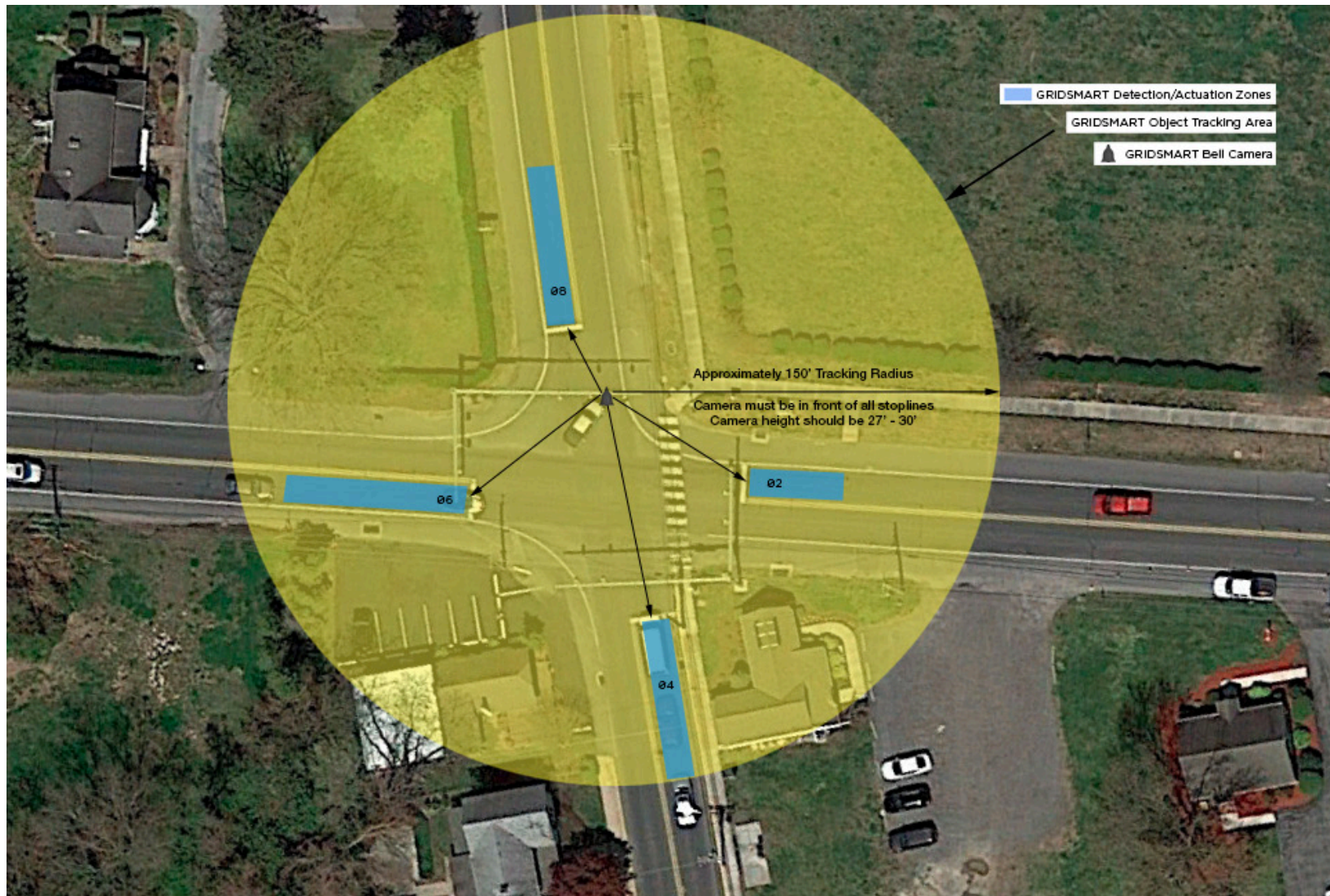
Dual camera installations offer the designer more options for larger intersections, however, the GridSmart® Fisheye camera should still be mounted at least 30 feet above the roadway, and no more than 150 feet from the front of the furthest stopline.

# Intersection Design - Bell Camera Mast Arm Mount





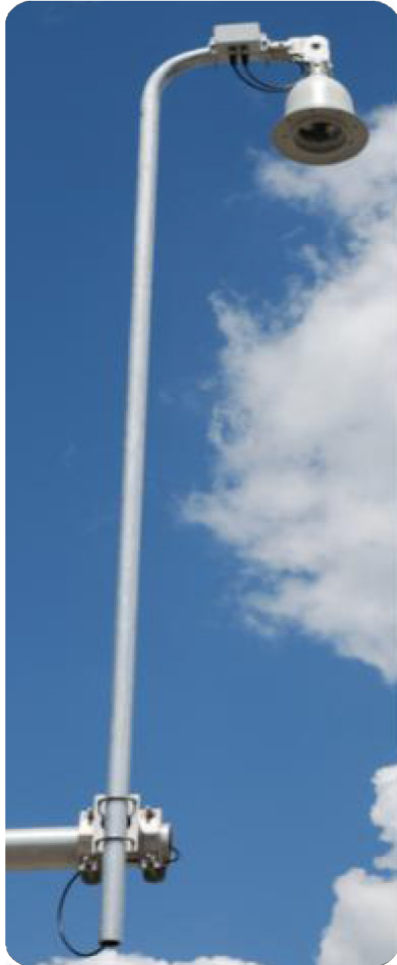
# Intersection Design - Bell Camera Mast Arm Mount



**Note.**

The lower the Fisheye camera is mounted, the shorter the tracking distance. When utilizing a mast arm, the camera should be no more than 50 feet from the center.

# Bell Camera Mast Arm Mount Equipment List



## GS-3-CAM

- GRIDSMART® Fisheye

## GS-3-SMC or SMCH

- Swivel Bracket provides dual plane adjustment for leveling
- Quick Connect Junction Box
- Terminal block Junction Box (GS-3-SMCH)

## GS-3-A84

- 84" Mounting Arm with 90° bend

## GS-3-TEN or BND or CBL

- Astro-Brac Tenon (AB-3010) or equivalent
- Astro-Brac Banded (AB-3004) or equivalent
- Astro-Brac Cable (AB-3009) or equivalent

### Note.

Intersections containing mast arms may at times be used instead of a luminaire corener mount. While it is recommended to adhere to the GRIDSMART® height specification, the camera may be slightly lower than the stated 30 feet. Note, all other specifications (distance to the center and distance to stopbar) remain unchanged for the zones configured in each camera.

# Intersection Design - Advanced Detection



# Intersection Design - Advanced Detection



GRIDS<sup>SM</sup>ART<sup>®</sup> Advance co-mounted with the GRIDS<sup>SM</sup>ART<sup>®</sup> Bell Camera.

# Advanced Camera Mount Equipment List

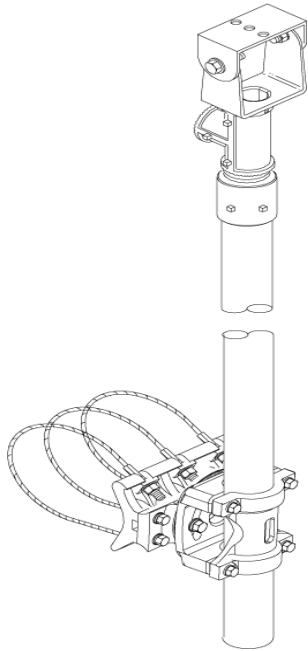


## GS-3-TCA

- GRIDSMART® Traditional Advance Camera

## Mounting Arm

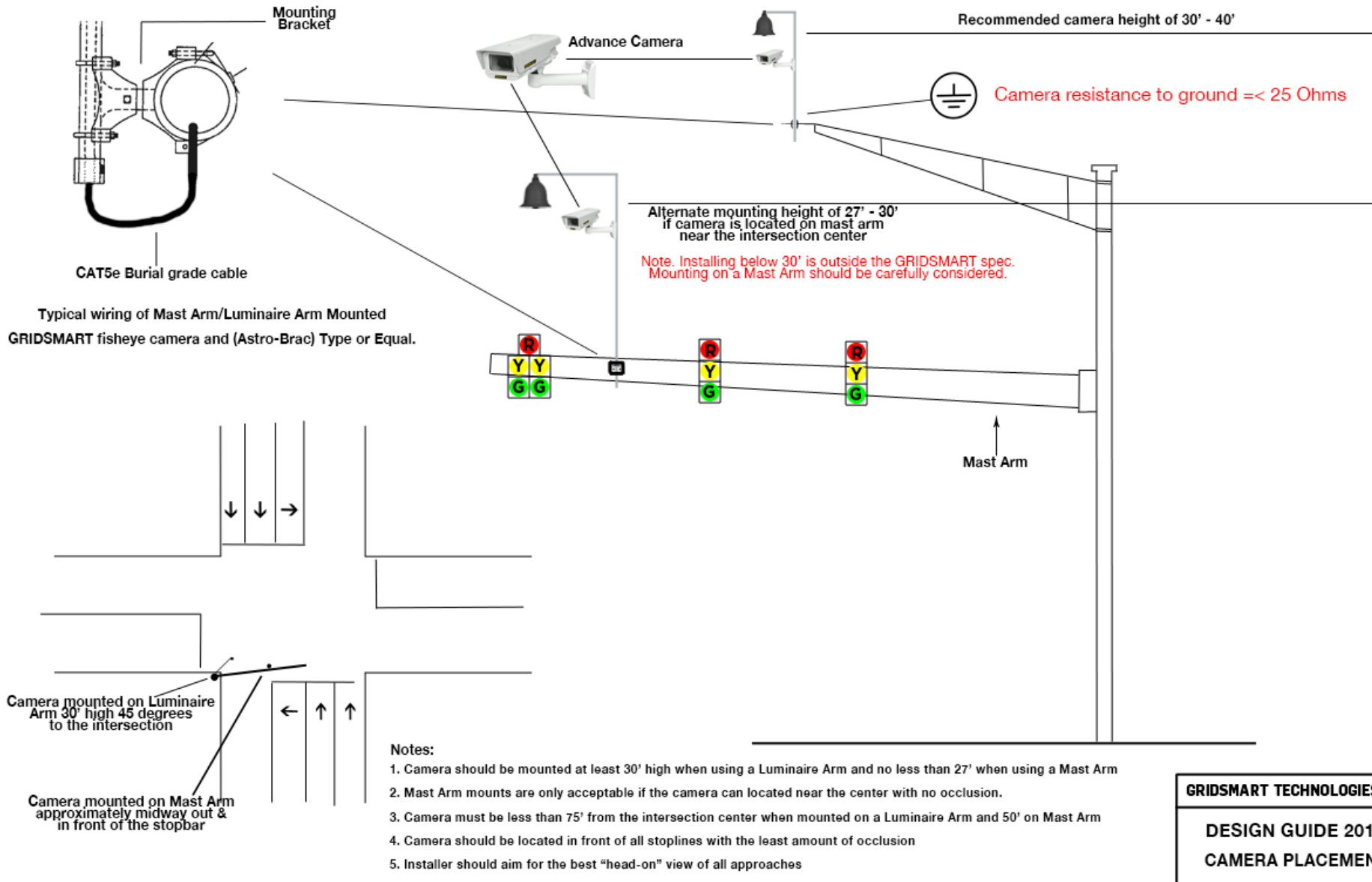
- existing mounting arm may be used
- Pelco Triton Camera Mount may also be used



Pelco Triton Mount

## GS-3-TEN or BND or CBL

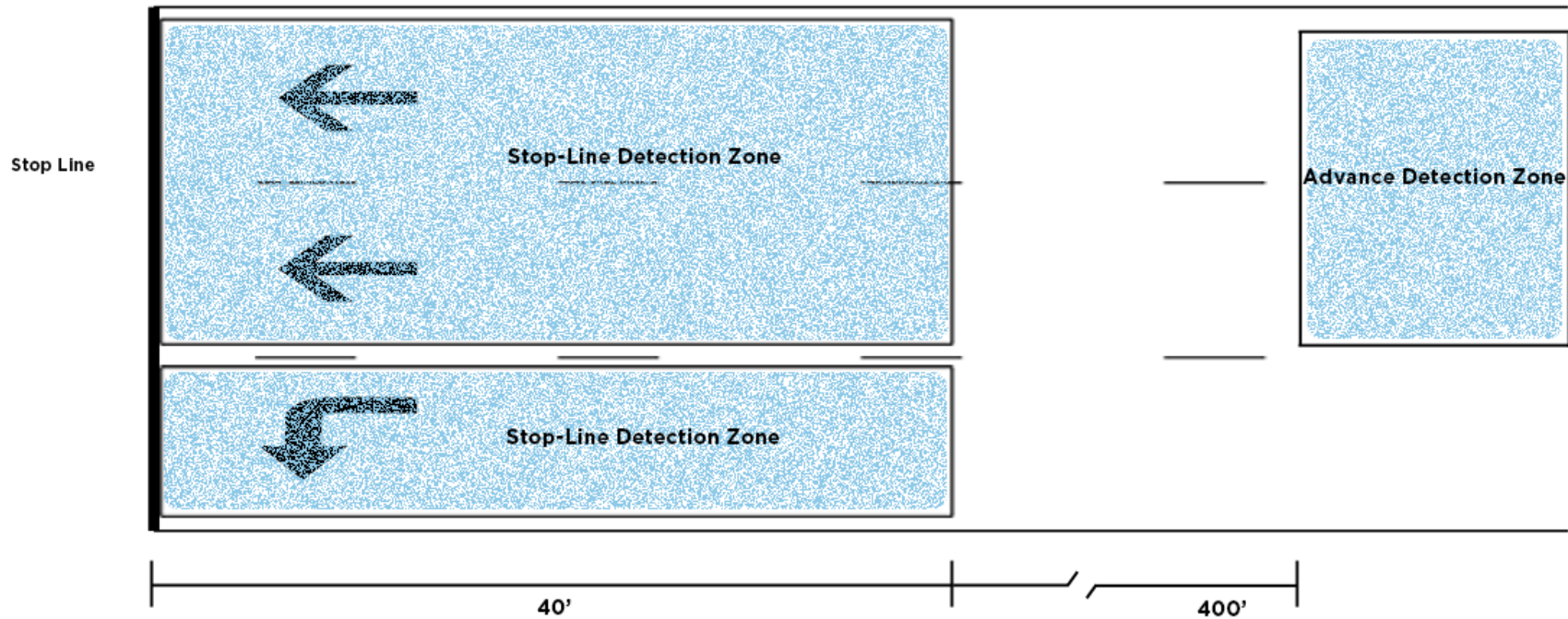
- Astro-Brac Tenon (AB-3010) or equivalent
- Astro-Brac Banded (AB-3004) or equivalent
- Astro-Brac Cable (AB-3009) or equivalent



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**CAMERA PLACEMENT**



**Detection Zones**

1. Stop-Line detection zones should be approximately 3-4 car lengths
2. A single detection zone should cover all lanes for each phase
3. Detection zones should NOT overlap
4. Assign Phase Inputs to wired phases ONLY, i.e. Stop-Line Presence Zones
5. The front of the Stop-Line Zone (i.e. the stop line), should be no more than 150' from the camera
6. The front of the Advance Zone should be no more than 400' from the camera

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ZONE PLACEMENT