

■ Macro Concealment Inspiration Guide



Macro Sites

Raycap has a broad experience in designing, engineering and fabricating traditional macro cell site concealments.

From windows to steeples to water towers and silos, the solutions and customizations we've designed are endless. Built to suit the site, our concealments can accommodate single or multiple carriers, creating endless variations to enhance or blend in with the environment at street level, on rooftops or high in the sky. Whether your site is a new-build or you're looking for a concealment solution to add to a 300 year-old building, we've done it all. We've met some of the most demanding historical and architectural requirements, while blending concealments perfectly into their surroundings.

Our experience covers the entire wireless industry both in the United States and Europe with an extensive variety of custom concealment structures. Our site solutions are both solidly engineered and aesthetically pleasing.



Poles

Would a concealment pole allow you to place transmission equipment in a high profile area of your community and will it prevent opposition that delays target on-air dates?

Whether you add transmission equipment in highly populated or unpopulated areas, a pole style concealment may be just the ticket to get you up and running quickly.

From stately flagpoles and multi-tasking stadium lights...a concealment pole can blend quietly into its surroundings or add a focal point to your chosen site.


Already have a concealment pole and considering adding new equipment? Raycap has an expansion system available that allows for upgrades to your site as well as a variety of radome styles and designs from which to choose.

Our concealment poles are custom-made to satisfy the needs of all involved.

Concealment pole serviceability costs are driven by height and location, it's important to evaluate potential post-installation costs. Your long-term site goals and budget will help you to determine if the advantages of a concealment pole's completion speed and minimalist structure outweigh other concealment options with built-in flexibility and greater accessibility.

Raycap's concealment poles are designed for co-location and the addition of future carriers.

Zoning



MINIMAL

Expandability



HIGH

Site Prep

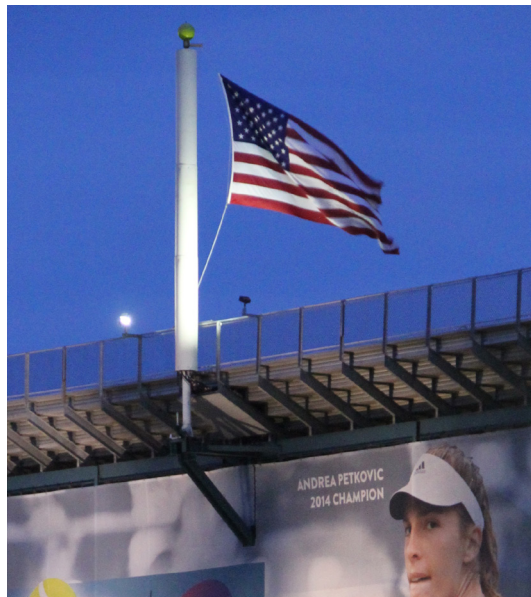


LOW

Maintenance



MEDIUM



Rooftops

Would a concealed site blend into the current cityscape? Will a concealment protect a small town's charm?

In metropolitan and suburban areas alike, taking full advantage of the height of existing buildings is worth considering. In many cases, topping a structure with a box or penthouse concealment is an excellent option. We've worked on thousands of concealments of this kind, and we will work hard to make sure that your new concealment enhances your site as much as possible.

Choose a rooftop or side mounted box concealment to blend seamlessly with your existing building — or opt to add an eye-catching architectural design element. Simulated brick, block, stucco, and stone textures can be hand-painted to match an existing building's façade. Or add visual drama with a signal-friendly enhancement like a chimney, louvered penthouse, or cupola.

Need a concealment solution, but a freestanding structure is out of the picture? Go to the rooftop.

A flagpole or tree may seem like a great quick fix, however, a rooftop solution may actually be equally as fast ... or even faster. And, advance planning for expanded capacity — to conceal multiple antennas on a rooftop or building's side — may be your most economical choice for the long haul. While this may require a slightly larger investment up front, flexibility to incorporate additional carriers or retrofit with new technology at a later date adds to the long-term value of a rooftop-style concealment. Plus, easy access to an existing building's roof can translate to accelerated installation schedules and less site prep, followed by low cost post-installation serviceability.

Zoning



MODERATE

Expandability



HIGH

Site Prep



MEDIUM

Maintenance



MEDIUM





Steeple & Crosses

Are you looking for a concealment that will also help you bring financial strength to your organization? Look no further.

Congregations are taking full advantage of the financial benefit of having wireless antennas installed on their property.

Raycap offers a wide variety of church solutions - from steeples to louvers, to windows, crosses and more. Your concealment options are limitless. All of the materials we use are RF-transparent, which means excellent RF performance and quick installation. Whether you are looking for a traditional steeple, or a completely custom concealment, Raycap will work with you to provide the optimum solution.

Already have a concealment on your church property that you're looking to expand or upgrade? No problem.

Our team has years of expertise with replacements, extensions and expansions in urban, rural and the most historical locations. Our concealments grace elaborate steeples, beautiful stained glass windows, and numerous custom towers. If it's crosses or bells you're after, we can do that too.

Church concealments share many elements with the other types of concealments we offer, however, every site is different, and we embrace each and every custom job. We have the ability to create something that hides multiple antennas while maximizing the beauty of any church. Contact us today to begin increasing your wireless signal and the aesthetics of your property.

Zoning



MOST

Expandability



HIGH

Site Prep



MEDIUM

Maintenance



MEDIUM





Towers & Freestanding Structures

Would a concealment structure introduce an element of charm to your cityscape?

Whether signal transmission equipment is located in urban or rural areas, a freestanding concealment structure could become your community showpiece. From bell towers to clock towers, crosses to lighthouses, endless variations ensure every custom concealment is a creative showpiece, crafted to either enhance an area or blend unobtrusively with the transmission site's immediate environment.

Although custom concealment structures are arguably more expensive than other options, both initial investment and post-installation serviceability costs are heavily driven by your design, height, and location choices. Your long term goals and budget will help determine if a custom showpiece is the best choice for your site.

Will a freestanding concealment add a visual highlight to the rolling countryside?

Here's where we tower above the competition: our freestanding structures provide great concealment opportunities in a wide range of places. From water tanks to bell towers and clock towers, our designs allow for optimum signal transmission and our aesthetics satisfy even the most discerning zoning board.

Raycap can work with an existing tower, which allows us to install infrastructure without altering the current appearance, or we can build a freestanding tower from the ground up — accommodating single or multiple carriers.

Like rooftop concealments, custom structures can be designed to allow for capacity expansions to maximize the number of antennas concealed, now or in the future. Your ability to add carriers or retrofit with new technology down the road adds immediate long-term value.

Zoning



MOST

Expandability



HIGH

Site Prep



MEDIUM

Maintenance



MEDIUM



Silos

Are you looking for a silo concealment that will hide with pride on a local farm?

While an unconcealed cell tower would stick out like a sore thumb on a farm, a silo is a perfect fit. At Raycap we know that every farm is unique, and we are happy to create a concealment that compliments the surrounding architecture. All of our materials are RF-transparent, which means excellent RF performance.

Like our other tower concealments, our silos can be designed to allow for expansion so you'll have the ability to add antennas down the road if the need arises.

Do you have an existing silo on your property that you'd like to expand and/or have antennas installed inside? We have the solution.

We can utilize an existing silo or build one from the ground up. Our silos can be fully dressed with our concealment panels, or they can be concrete below the RF-transparent portion. We can even apply brick or other custom texture to our silos!

Much like the other freestanding structures Raycap offers, our silos can become your farm's showpiece. In our 25 years of experience we've designed, engineered, and fabricated hundreds of custom concealments and we embrace challenges. If there's something specific that you're looking for, but you're not sure it can be done, you've come to the right place. We'll work with you to make sure that your silo is perfect for you.

Zoning



Expandability



Site Prep



Maintenance



Pods

Standard Frame Sizes for Easy Installation

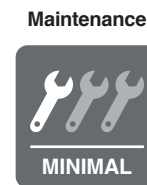
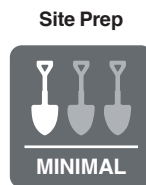
Raycap offers two standard ballasted pod frames that are designed to accommodate not only the antennas but also the radomes to conceal them. This allows for reduced engineering lead times and costs, plus, the optimized framing material makes manufacturing and installation a breeze.

Pod Projects for Architecture & Engineering Firms

For A&E firms working on a new project, our concealment pods offer a great disguise and can even add a decorative element to a building. Pods can be designed as roof penetrating or non-penetrating (ballasted) and can also be ventilated. Ballasted pod packages contain the catalog and pertinent DWG files to incorporate into your projects. Reach out to your local sales representative for these standard design packages.

Perforated and Ventilated Pods

If you're using antennas, RRU's (Remote Radio Unit) or RRH's (Remote Radio Head), it's important to ensure that the equipment does not overheat. We have ventilated and perforated radomes to use on your site so that overheating does not become an issue.





Monopines

We grow trees of all shapes and sizes.

While it's tempting to look at trees as "cookie-cutter" concealments, variables like wind speed tolerances and the location's surroundings can dictate a more customized approach to even the most simple-seeming concealments. But don't let the word "custom" scare you; our manufacturing techniques are very efficient. Trees are a great option for those sites requiring a multi-carrier solution. Our trees are designed to conceal as many carriers as necessary. We also design to accommodate any density requirements.

Towering above the competition.

Although tree style concealments share many similarities with pole concealments, they are slightly more costly and more difficult to maintain. Tree concealments face some criticism from the public, who maintain they simply don't conceal as well as other options, but in some instances tree concealments remain the best solution — especially when they are of the same species as indigenous trees and blend with the surrounding environment.

Raycap's concealed cell tower trees can be designed with:

- Any density requirement
- Replacement branches
- Various branch lengths for optimum coverage
- Bark cladding available

Zoning



MINIMAL

Expandability



LOW

Site Prep



MEDIUM

Maintenance



HIGH



Windows

Custom designs to match your needs.

Believe it or not, replacing existing or creating new windows with louvered assemblies or a frosted acrylic are both feasible options. We can even add ornate trim or decorative mullions to blend in with your building and add a little charm. All materials utilizing our RF-transparent materials provide optimum RF performance.

Zoning



Expandability



Site Prep



Maintenance



DAS

As the demand for bandwidth increases within heavily populated parks, hotels, arenas and sports centers, distributed antenna systems (DAS) have become the key to connectivity. Think of the last major sporting or arena event you attended. People want to talk, text and tweet, and DAS allows venues to accommodate sudden, extreme spikes in demand. In true Raycap fashion, we've designed and fabricated them to blend seamlessly into their surroundings.

Where DAS Networks are Integrated

Aesthetics become more and more important when additional antennas are needed to support data usage. In places such as arenas, football stadiums, parks, campuses, and other heavily populated areas/venues, you can spot various types of concealments. Whether it be in the form of a vomitory box, light pole, or side mounted box, there's likely a concealment that's well disguised somewhere near you.

Zoning




MINIMAL

Expandability




HIGH

Site Prep



MINIMAL

Maintenance



MINIMAL



About Raycap

Raycap is an international manufacturer and technology leader with decades of experience providing innovative infrastructure solutions for customers in the telecom, energy, defense, transportation, and other industrial markets. Its solutions protect mission-critical applications and ensure the best possible system availability. The company's product portfolio includes lightning and surge protection technologies, structured cabling and connectivity solutions, power management systems, custom enclosures, cabinets, and wireless network concealments. Since its founding in 1987, the company has experienced continuous growth. Its engineering expertise, test laboratories, and multiple manufacturing facilities guarantee quality, reliability, and innovation. Product design, testing, and approval processes comply with all international safety standards. Raycap operates in the United States, Germany, Greece, Cyprus, Slovenia, and Romania.

For more information on Raycap products, visit www.raycap.com or www.raycap.de

*Talk to Raycap about your custom
macro concealment options.
Contact us today at info@raycap.com.*

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