



Current Trends in Wireless

Presenters:

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of Orange County
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Experience

- 17 years in private-sector planning (master plans, land entitlements, permitting, and project management)
- 12 years in telecom site acquisition
- Worked on behalf of AT&T, MetroPCS, Sprint, T-Mobile, Verizon, Crown Castle, and American Tower Corporation
- Secured entitlements for over 750 projects throughout California

Member

American Planning Association

Education

Master of Planning, University of Southern California, Los Angeles (MPL)



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A division of



Jonathan L. Kramer, Esq., J.D., LL.M, LP.D

Experience

- Licensed by FCC since early 70s (holds six licenses/certs)
- 35+ years in telecom engineering/safety reviews (RF, broadband, fiber, outside plant safety, code compliance, RF safety)
- 33 years consulting on telecom matters > 1,000 governments/firms; 25 years of wireless siting and planning >2,000 cases/matters
- Expert witness/trial advisor in 40+ wireless, wired telecom cases
- Co-author, Co-editor of FCC's "A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance"

Teaches

Doctoral, Masters level Instructor; Regulatory Law and Policy, Northeastern University; Boston and Seattle

Member

Admitted to practice law in California and New Mexico
IMLA (Attorney Member)
NATOA (Twice Member of the Year)
FCBA (Member)
Society of Broadcast Engineers (Senior Member)
SCTE (UK) (Fellow Member); SCTE (US) (Senior Member)

Education

Doctor of Law and Policy, Northeastern Univ., Boston (LP.D)
Master of Law *with honors*, Strathclyde University School of Law, Glasgow (I.T. & Telecom Law) (LL.M)
Juris Doctor *cum laude*, Abraham Lincoln School of Law, Los Angeles (JD)



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Map to our Presentation

1.

Overview of Modifications to Existing Facilities

2.

Legal Stuff at the State and Federal Levels

3.

Site Hardening (Standby Power Generators)

4.

Maintaining Your Sanity Processing Small Cell Applications

5.

Use Permit Renewals

6.

Dishing on Dish



Section1

MODIFICATIONS TO EXISTING FACILITIES

MODIFICATIONS TO EXISTING WIRELESS FACILITIES...

Modifications to existing facilities are more prevalent now than ever before.

Why are wireless facilities modified?

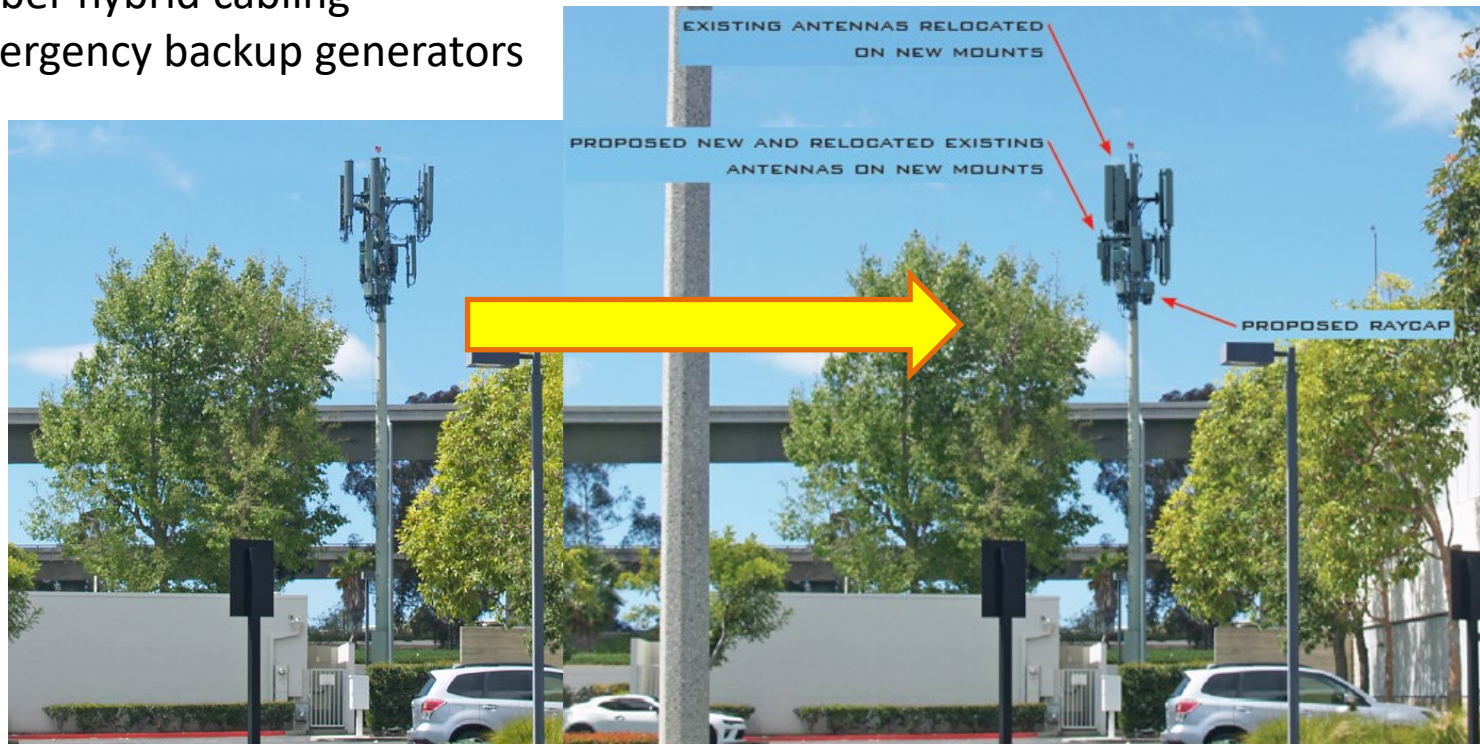
- Deploy/upgrade to newer technologies;
- Install more sensitive equipment;
- Install equipment with greater capacity to serve more users;
- Install equipment with greater capacity to send data faster;
- Reorient antennas to point in different directions as the surrounding network grows;
- Reorient antennas to point in different directions as the surrounding built environment changes
- Purpose: Meet user demands and provide users with the best experience possible

What carriers are modifying their facilities? All of them!

MODIFICATIONS TO EXISTING WIRELESS FACILITIES...

What do modifications usually include?

- New and/or replaced antennas (could be larger, smaller, or the same size depending on carrier and technology)
- New and/or replaced equipment on the tower
- New and/or replaced equipment inside existing equipment cabinets or shelters
- New and/or replaced equipment and battery cabinets
- Power-fiber hybrid cabling
- New emergency backup generators



MODIFICATIONS TO EXISTING WIRELESS FACILITIES...

Planning considerations:

Under what rules are modifications being submitted?

- Is it a Section 6409(a) “Eligible Facilities Request”?
- Or is it a modification outside of Section 6409(a) aka Section 332(c) modification?

How to know if you’re applying the right set of rules?

MODIFICATIONS - EVALUATING ELIGIBLE FACILITIES REQUESTS

Are the following questions TRUE:

- Is the request to collocate, remove, or replace “transmission equipment”?
- Does the existing tower or base station have a valid land use approval or building permit?
- Was the facility and subsequent modifications constructed in accordance with approvals and permits on record?

If so, then you might have an Eligible Facilities Request. Let's see if the proposed change is “substantial”.

- Height
- Width
- Equipment Cabinets
- Deployment Outside Current Site
- Existing Concealment
- Compliance with Permit Conditions

MODIFICATIONS - EVALUATING ELIGIBLE FACILITIES REQUESTS

6 Criteria for Substantial Change

Criteria	Towers outside ROW	Towers in ROW & Base Stations
1) Height	Greater of 10% or antenna array height plus separation of up to 20'.	Greater of 10% or 10 feet
2) Width	Appurtenance that protrudes from edge of tower more than greater of 20' or width of tower at level of appurtenance.	Appurtenance that protrudes more than six feet
3) Equipment Cabinets (not RRUs)	More than standard number of equipment cabinets, not to exceed four.	More than standard number of equipment cabinets, not to exceed four.

MODIFICATIONS - EVALUATING ELIGIBLE FACILITIES REQUESTS

6 Criteria for Substantial Change

Criteria	Towers outside ROW	Towers in ROW & Base Stations
4) Current Site	Any excavation or deployment outside of the current site by more than 30 feet in any direction.	Any excavation or deployment outside that area in proximity to the structure and to other transmission equipment already deployed on the ground.
5) Concealment	Does the modification defeat the existing concealment element? <ul style="list-style-type: none">• Concealment elements are only those that were installed for the purpose of making the facility look like something other than a wireless facility.• Concealment elements must have been considered and expressly approved in prior siting approval.• Must cause a reasonable person to find the intended stealth design is no longer effective.	

MODIFICATIONS - EVALUATING ELIGIBLE FACILITIES REQUESTS

6 Criteria for Substantial Change

Criteria	Towers outside ROW	Towers in ROW & Base Stations
6) Compliance with Siting Conditions	Does the modification comply with the siting approval? Exception when the change is otherwise within the substantial change thresholds for height increase, width increase, addition of new cabinets or new excavation or deployment.	

If the proposed modification is compliant with these 6 criteria, then you have a valid 6409(a) Eligible Facilities Request and “shall approve and may not deny” it pursuant to a 60-day FCC shot-clock.

If not, then you have a Section 332(c) modification and must take action on it pursuant to a 90-day FCC shot-clock.



Section 2

LEGAL STUFF AT THE STATE AND FEDERAL LEVELS

2018 FCC ORDERS

Moratorium Order (FCC 18-111)

- prohibits “express” and “de facto” moratoria
- jurisdictions must accept applications

Small Cell Order (FCC 18-133)

- creates a new regulatory classification for **small wireless facilities**
- establishes a national standard for an **effective prohibition** with new presumptions and remedies
- adopts **new, faster shot clocks** for processing applications
- limits **pole attachment fees** and local **aesthetic regulations**

FCC'S 2018 *SMALL CELL ORDER*:

WHAT IS A SMALL CELL?

(l) *Small wireless facilities*, consistent with section 1.1312(e)(2), are facilities that meet each of the following conditions:

(1) The facilities—

(i) are mounted on structures 50 feet or less in height including their antennas as defined in section 1.1320(d), or

(ii) are mounted on structures no more than 10 percent taller than other adjacent structures, or

(iii) do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;

(2) Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in section 1.1320(d)), is no more than three cubic feet in volume;

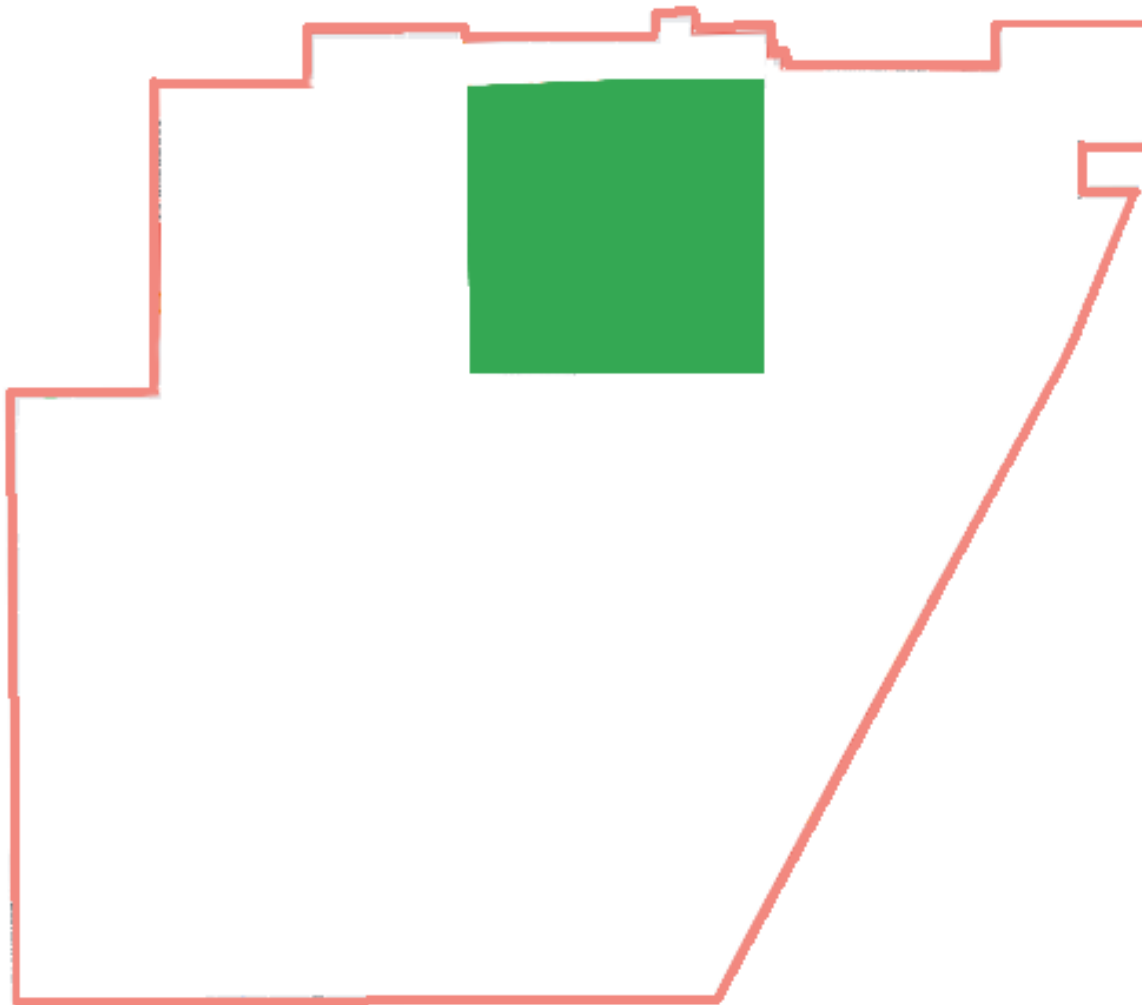
(3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;

(4) The facilities do not require antenna structure registration under part 17 of this chapter;

(5) The facilities are not located on Tribal lands, as defined under 36 CFR 800.16(x); and

(6) The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in section 1.1307(b).

SMALL CELLS: WHY PDS AND PWDS *SHOULD* CARE



Industry estimates:

10 to 60 small cells
per sq. mile, per carrier

3ish carriers: **VzW, AT&T,
T-Mobile**

City of Fountain Valley: **9.08 sq.
miles (land)**

The New (Conservative) Math:

Assume:

x **3** carriers

x **20** SWFers per sq. mi.

x **6** sq. mi.

= **~480** new SWFers

over the next 3 to 5 years,
mostly in the PROW, but also
some (dozens) likely to be on
private property.

FCC'S 2018 *SMALL CELL ORDER*:

WHAT IS A SMALL CELL?

- **No LIMIT** to the number of 3 cubic foot antennas
- antennas are **NOT** counted in the 28 cubic foot 'small wireless facility' volume calculation
- typical 6' tall panel antennas **likely to be** 3 cubic feet in volume or less

8' tall panels? *Not so likely*



A 28 cubic
foot box
can be very
slimming

FCC'S 2018 *SMALL CELL ORDER*: FEES

FCC's view of 'Reasonable Permitting Cost':

- \$500 for up to the first five bundled applications are presumed to be reasonable (1, or 2, or 3, or 4, or 5 a total of \$500)
- \$100 for each additional application in the bundle are presumed to be reasonable (6 per bundle = \$600; 9 per bundle = \$900)
- Includes all costs: Zoning; Building & Safety; Permits, etc.

But...FCC also says that all *reasonable* costs can be passed on (permit review, external review, permit issuance, inspections, etc.)

6409 Declaratory Ruling

35 FCC Rcd. 5977 (Jun. 10, 2020) (FCC 20-75)

Reinterprets FCC's Section 6409 Rules

- shot clock commencement
- reduced protections for existing concealment elements on “non-stealth” facilities
- preempts prior COAs on aesthetics if in conflict with thresholds for increased height, width, cabinets, area
- excludes equipment boxes from per-modification limit on new equipment cabinets

Legal Challenges Pending

- *League of Cal. Cities, et al. v. FCC*, No. 20-71765



Section 3

SITE HARDENING (STANDBY POWER GENERATORS)

AB-2421 (CA Gov't Code § 65850.75)

1/1/21-1/1/24ish

Streamlined processing for standby power generators at *some* macrocell sites

Why now?

- Recent fires have shown that wireless facilities are critical infrastructure
- Carriers don't want to rely on SCE/SDG&E/PG&E at critical network sites

What does it cover?

- Only macrocell tower sites
- Excludes small cell sites, rooftop macrocell sites, DAS
- Tower is existing and previously permitted

What carriers are using it?

- All of them!

AB-2421 (CA Gov't Code § 65850.75)

1/1/21-1/1/24ish

Streamlined processing for standby power generators at *some* macrocell sites

Qualifying emergency generator requirements:

- Rated below 50 horsepower (conversion to kW is 37.285);
- Compliant with applicable air quality regulations;
- Has a double-wall storage tank (300 gallons maximum);
- Is mounted on a concrete pad;
- Generator and storage tank are ≤ 250 cubic feet in volume;
- Located within 100 feet of tower or base station (equipment);
- Meets all state and local laws, including generally applicable safety codes.

If the generator doesn't qualify for AB-2421, it may still qualify as a 6409(a) EFR modification, or a 332(c) modification.

AB-2421 (CA Gov't Code § 65850.75)

1/1/21-1/1/24ish

Streamlined processing for standby power generators at *some* macrocell sites

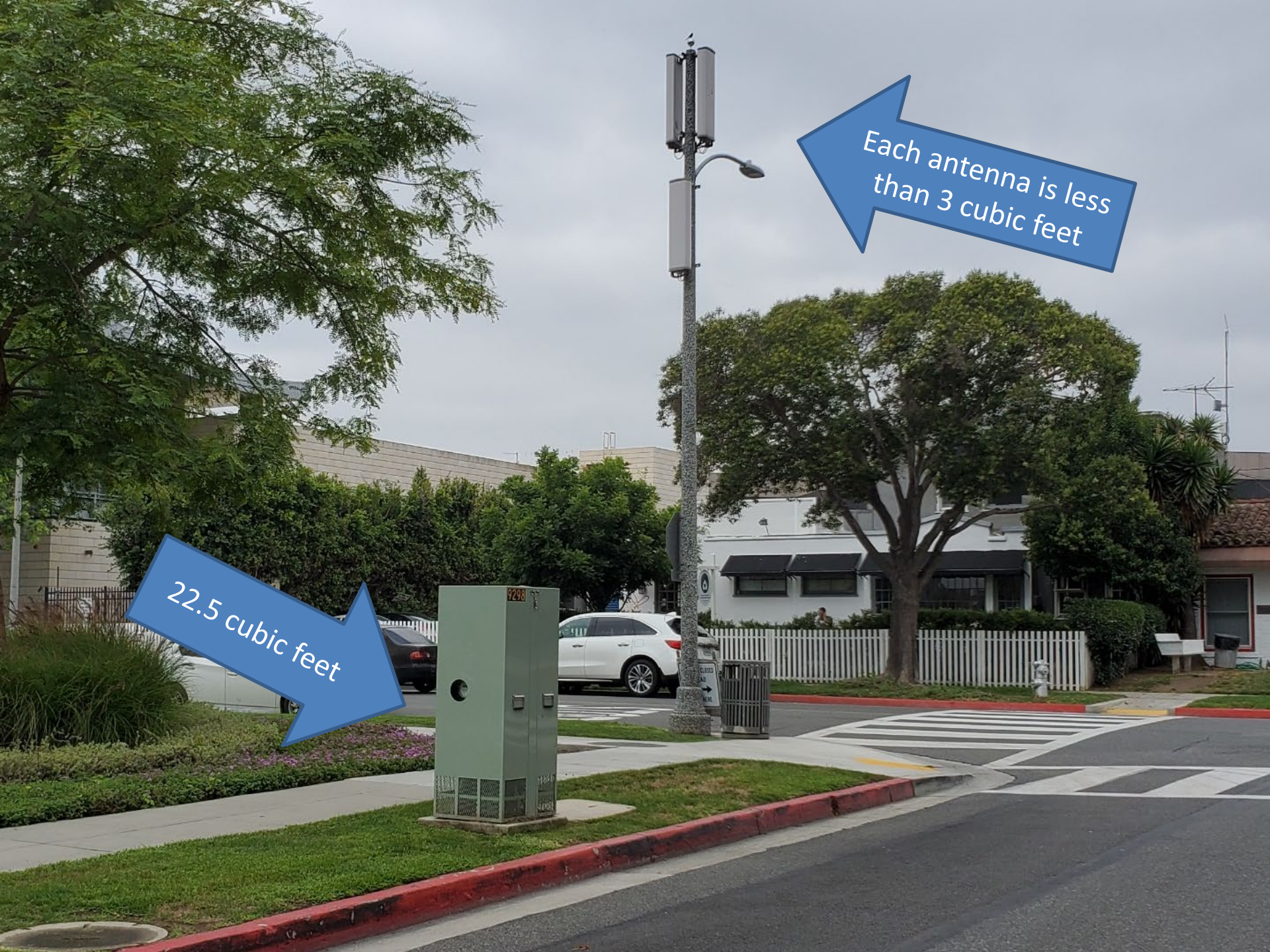
What does it do?

- Emergency generators of a certain configuration serving a macro cell tower site are permitted uses not subject to discretionary approval if site now is as was permitted.
- Limits application information to what is routinely required for other emergency standby generators.
- Letters of Authorization from Property Owner are not required as part of application (can still be required prior to installation).
- Sets a 60-day shot clock to approve or deny (inclusive of all permits!), may be tolled.
- Sets an initial 10-day review deadline for completeness (must tell applicant how to fix application).
- 60-day shot clock resets at resubmittal (one time).
- Deemed approved if no action taken by end of shot clock.



Section 3

SMALL CELLS IN THE WILD



Each antenna is less
than 3 cubic feet

22.5 cubic feet



SYCAMORE CYN
← CAMPGROUNDS
800 FEET

VENTURA COUNTY
**CALL
BOX**
1-49

NO
PARKING
ANY
TIME





Ver 0.7

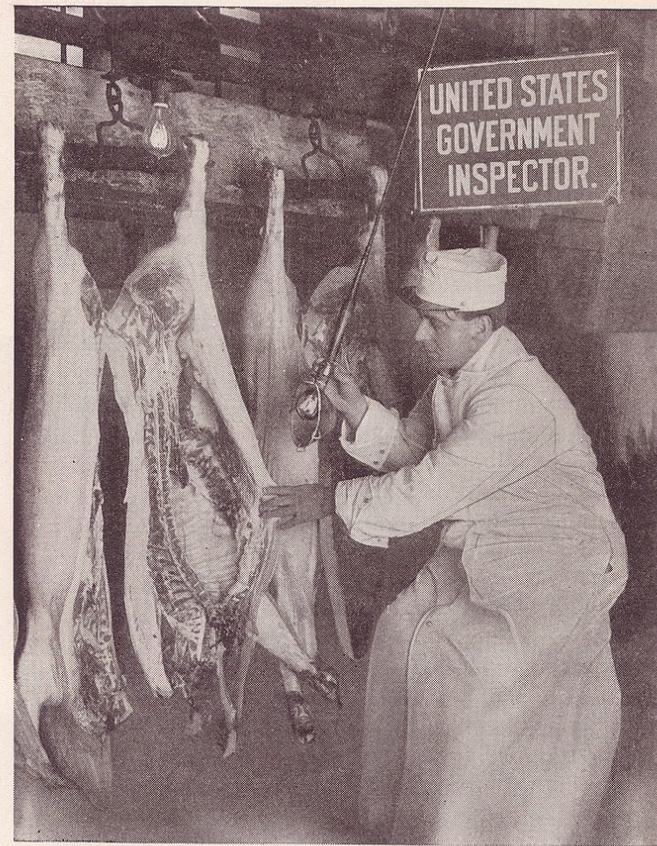


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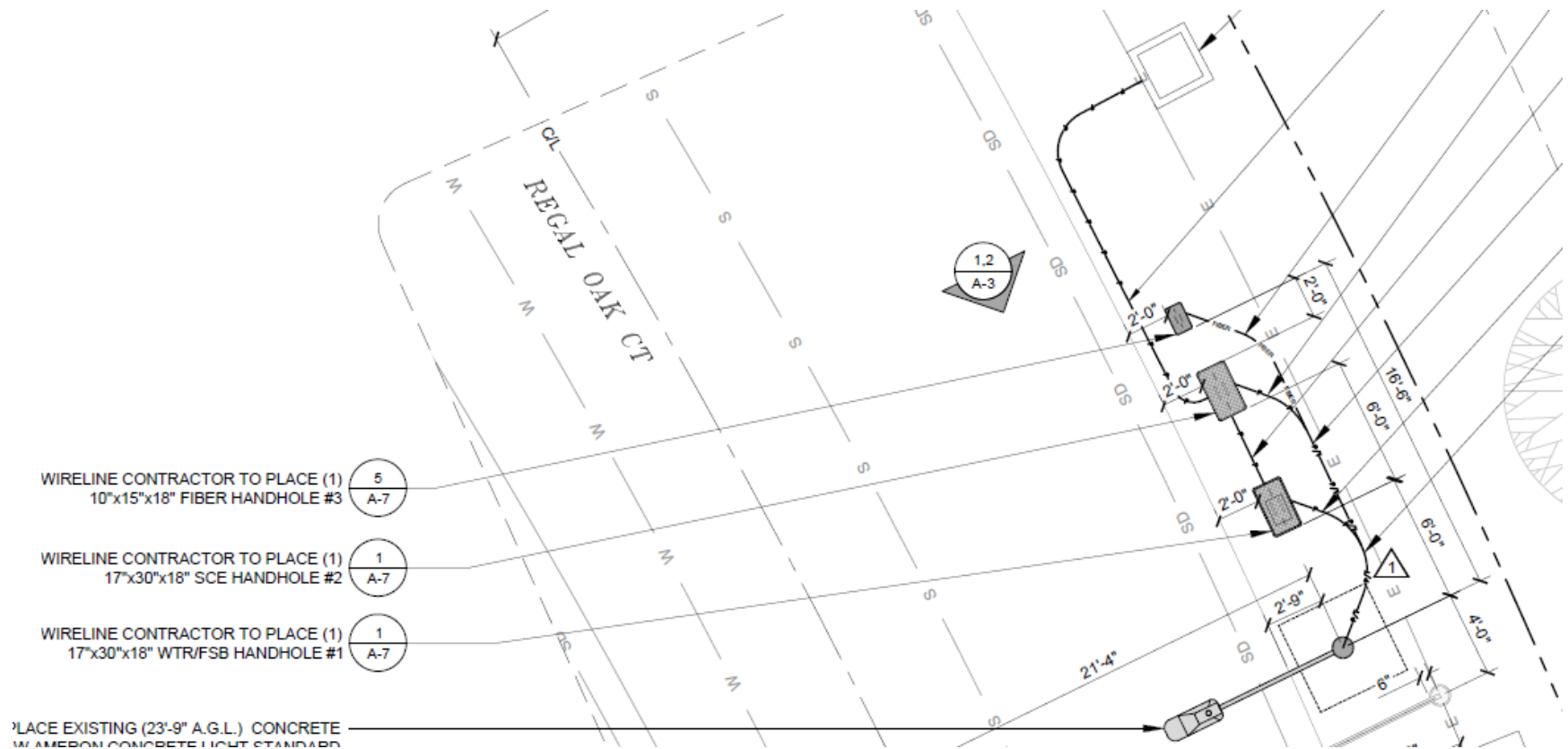
Section 4

MAINTAINING YOUR SANITY PROCESSING SMALL CELL APPLICATIONS



U. S. Government Inspector Making Inspection

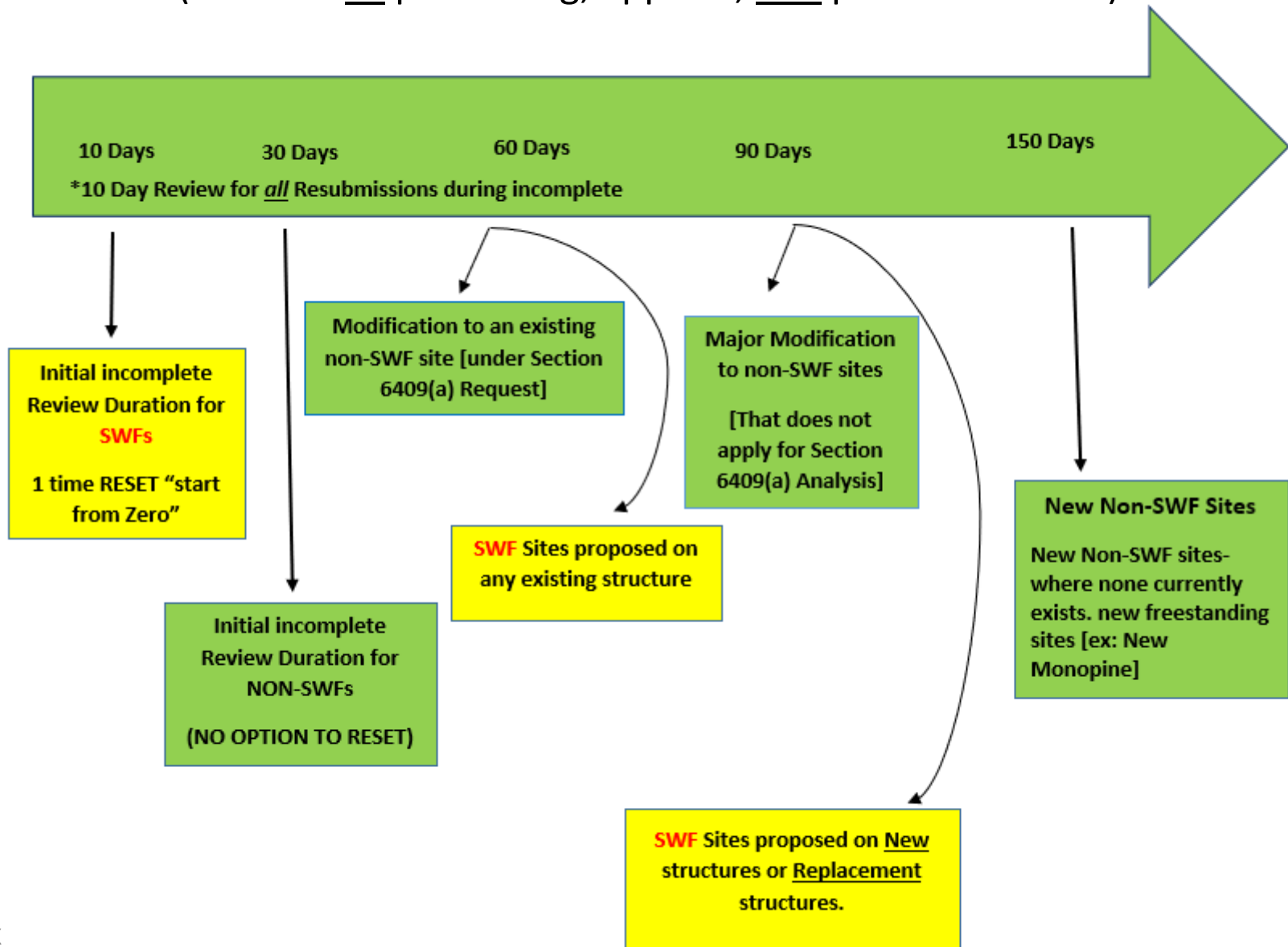
Fiber and Power: 1 app or 2 apps?



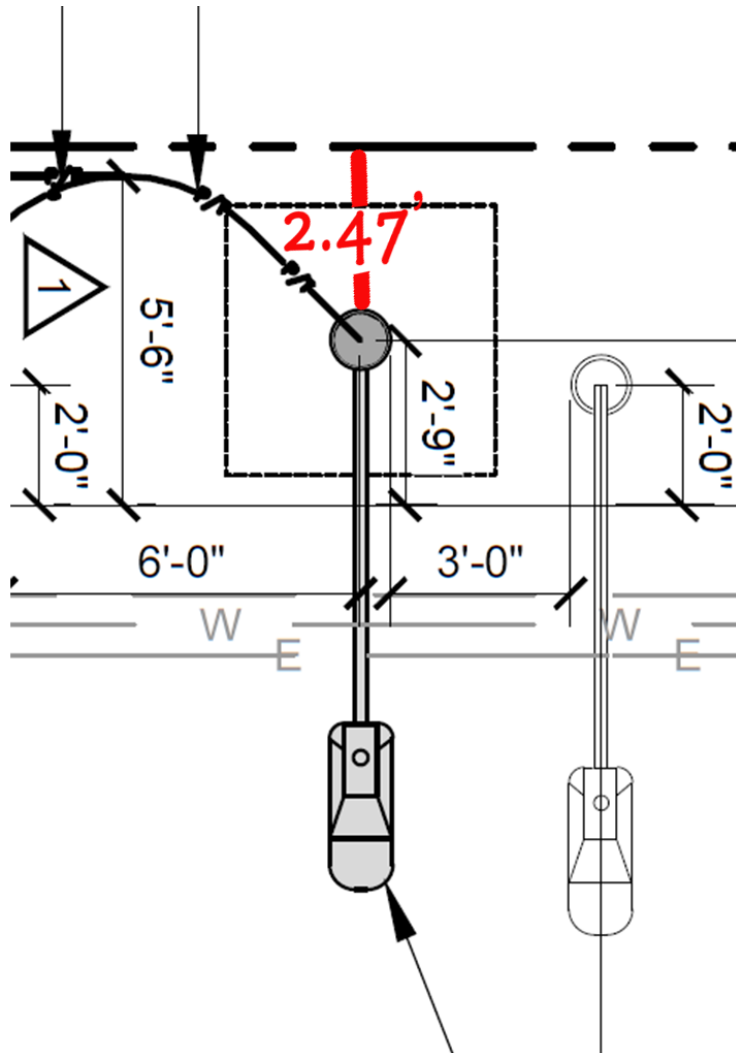
Aim for as much 'flush' as you can; minimize street furniture;
Avoid piecemealing projects

The New FCC Shot Clock Rules

(Includes all processing, appeals, and permit issuance)



'It's never-gonna-happen'



***Accept the application and fees;
process by looking for ADA
violations.***

***If found then DENY the
application without prejudice
within the shot clock period.***



‘It’s never-gonna-happen’

***Accept the application and fees;
process by looking for inverse
condemnations. If found then DENY
the application without prejudice
within the shot clock period.***

Surviving Shot Clocks

- Your APPLICATION**S** are critical (require they provide last approved permits to catch **unpermitted** modifications)
- Incompleteness Review under the FCC's **One-Bite Rule**
- The shot clock starts sooner than you think!
- Application appointments (Mondays, Tuesdays)
- Ministerial approvals where reasonable
- Automatic withdrawal rule to kill zombies (60 days?)
- No 'complete letter' or 'incomplete letter' at the counter
- Don't mindlessly sign tolling agreements
- Standard conditions of approval attach to every site and by operation of law
- Obligations to provide prior permits: 'Missing' permits are no permits

Section 5

PERMIT RENEWALS



CA Gov't Code § 65964

65964 As a condition of approval of an application for a permit for construction or reconstruction for a development project for a **wireless** telecommunications facility, as defined in Section **65850.6**, a city or county shall not do any of the following:

(a) Require an escrow deposit for removal of a **wireless** telecommunications facility or any component thereof. However, a performance bond or other surety or another form of security may be required, so long as the amount of the bond security is rationally related to the cost of removal. In establishing the amount of the security, the city or county shall take into consideration information provided by the permit applicant regarding the cost of removal.

(b) Unreasonably limit the duration of any permit for a **wireless** telecommunications facility. Limits of less than 10 years are presumed to be unreasonable absent public safety reasons or substantial land use reasons. However, cities and counties may establish a build-out period for a site.

(c) Require that all **wireless** telecommunications facilities be limited to sites owned by particular parties within the jurisdiction of the city or county.

Aesthetic Regulations

DO

- exercise your discretionary authority
- consider the difference between “stealth” and “concealed” for Section 6409 purposes; require “stealth” in aesthetically sensitive areas
- use both subjective and objective standards
- incentivize preferred locations and designs with more streamlined review processes
- delegate some authority to staff to develop more detailed design standards
- consult with stakeholders and planning staff!

DON'T

- require or prohibit specific technologies
- omit standards for disfavored designs/locations

Findings and COAs

DO

- put the burden of proof on the applicant
- include subjective findings traditionally found in zoning ordinances
- include a finding that the proposed facility meets your design and location standards
- include a finding that the facility demonstrates planned compliance with RF exposure rules
- develop detailed, standardized conditions for all approved (and deemed-approved) facilities
- authorize additional/modified conditions

Focus on Applications and Submittal Process

DO

- prepare detailed, written application forms
- use checklists that double as incomplete notices
- delegate control over application content and intake procedures to department staff
- expressly list the application fee as a completeness item
- shift admin burdens to the applicant as much as possible (e.g. require notice rosters and pre-addressed/stuffed notices)
- require applicants to “self select” as much as possible (regulatory classification, shot clock, etc.)

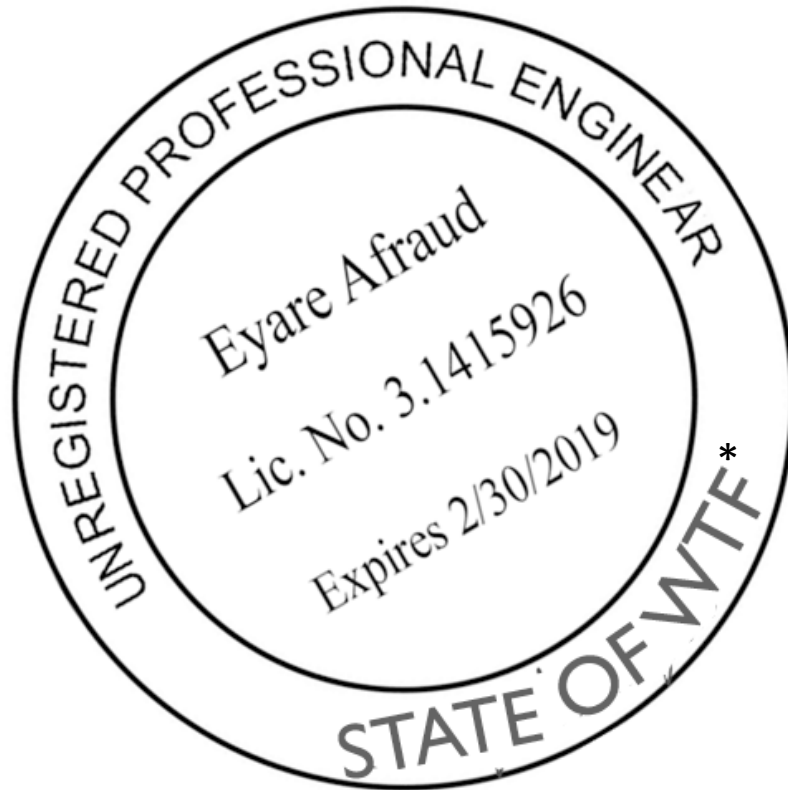
DON'T

- wait for the code amendment process; application requirements need not be codified
- leave any ambiguities about the first procedural step in the submittal process
- reject incomplete applications at the counter; take them in and send a timely incomplete notice

Before initial sign offs, and before any permit amendments or modifications, staff needs to go look at the site. Bring along a measuring tape and a camera.



A Very Disturbing New SWF Wireless-Driven Problem...



We are already seeing multiple instances of the unauthorized use of P.E. stamps and signatures...

...and the apparent selling of stamps and signatures on safety plans and forms.

Includes...so far...site plans and RF safety reports



Section 6

DISHING ON DISH



- Yes, it's the same company as the satellite TV provider
- It's a brand new nation-wide 5G-only network
 - Pledged to cover 70% of US population by 2023 (as required by FCC & DOJ)
 - At least 15,000 sites across the US
 - Not a traditional, equipment-heavy network
 - Leveraging the cloud instead of traditional switching centers
- Capabilities of Dish's Network
 - VoIP
 - Minimum 25Mbps download and 3Mbps upload (100x faster than 4G)
 - Ability to process information from over 1 million sensors / sq. km

- 1500+ sites planned across SoCal
 - 8-county region
 - Mostly Co-locations on Existing Towers to fall within 6409(a)
 - Some Installations on Building Rooftops
 - New Towers are uncommon so far
- Typical Equipment Configuration in SoCal market:
 - 6 panel antennas (6'-panels)
 - 3 sectors of 2 panels/sector
 - 12 remote radio units
 - 1 equipment cabinet
 - Will still require fiber and power connections



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