



Biological Reviews

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Federal Communications Commission



Biological Review Considerations

- Threatened and Endangered Species
- Migratory birds
- Bald Eagles and Golden Eagles



Biological Review Considerations

- http://wireless.fcc.gov/nepa/EA_checklist.pdf
- Located in: Wilderness Area, Wildlife Preserve, Flood Plain, or Wetland?
 - If no, provide documentation (maps, etc.)
 - If yes, provide appropriate approvals, permits, or grants



Biological Review Considerations

- Threatened and Endangered Species
- Migratory birds
- Bald Eagles and Golden Eagles



Threatened and Endangered Species

- Section 1.1307(a)(3) of the Commission's rules, 47 C.F.R. §1.1307(a)(3), requires applicants, licensees, & tower owners to consider the impact of proposed facilities under the Endangered Species Act (ESA), 16 U.S.C. s. 1531 et seq. **Applicants must determine whether any proposed facilities may affect listed, threatened or endangered species or designated critical habitats, or are likely to jeopardize the continued existence of any proposed threatened or endangered species or designated critical habitats. Applicants are also required to notify the FCC & file an environmental assessment if any of these conditions exist.**

Threatened and Endangered Species

- Plants and animals
- Determine if T&E species at your proposed facility site





Threatened and Endangered Species

- Information, Planning, and Conservation (IPaC)
 - USFWS tool
 - Provides species lists, critical habitat designations
 - <http://ecos.fws.gov/ipac/>

Threatened and Endangered Species

Location - Windows Internet Explorer
http://ecos.fws.gov/ipac/wizard/chooseLocation/prepare.action;jsessionid=BE146A92D31F2E2FAD52639202DF260A

U.S. Fish & Wildlife Service
IPaC - Information, Planning, and Conservation System
Environmental Conservation Online System

Search

IPaC Home Page Initial Project Scoping Project Builder FAQs

Step 1
Location

Step 2
Activities

Step 3
Trust resources list

Step 4
Conservation measures

Map Help [More info](#)

Tip: While zooming in or out, or while drawing or erasing a shape, you can cancel any time by pressing **Esc**.

Zoom in by selecting the Zoom In tool, and then draw a rectangle on the map by clicking and dragging the mouse. Press **Esc** key or click another map button to leave zoomin mode. [How to Use](#)

Zoom out by selecting the Zoom Out tool, and then draw a rectangle on the map by clicking and dragging the mouse. Press **Esc** key or click another map button to leave zoomout mode. [How to Use](#)

Move the map up, down, or across by selecting the Pan tool, and then click and drag the map to

Define your project location

Map (using toolbar buttons) State/county list

Note: After drawing or uploading your project location and clicking Continue, the map layers selected below are displayed on the read-only map on the Trust Resources list (Step 3).

[Continue...](#)

Upload... Change Basemap Find a place... Ma

Coordinates: Latitude: 23.328717 Longitude: -53.162327 Scale: 1:36978595

[Continue...](#)

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Threatened and Endangered Species



Activities - Windows Internet Explorer
http://ecos.fws.gov/ipac/wizard/chooseActivities/prepare.action
IPaC USFWS

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Step 1
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Describe your project

Select your project type:

- Agriculture
- Animal Control
- Aquaculture
- Biological Control
- Bridge Construction / Maintenance
- Communications Tower
- Customs and Border Protection
- Dam
- Deepwater Horizon Oil Spill Response
- Department of Energy Operations
- Development
- Dredge / Excavation
- Federal Grant / Loan Related
- Fill
- Fire
- Forestry
- Guidance
- Highway Safety and Maintenance
- Invasive Species Control
- Land - Acquisition
- Land - Clearing
- Land - Creation
- Land - Disposal / Transfer
- Land - Drainage
- Land - Easement / Right-Of-Way
- Landfill
- Land - Flooding
- Land - Management Plans
- Land - Preservation

Back Continue...

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Search

IPaC Home Page

Initial Project Scoping

Project Builder

FAQs

Step 1

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Step 2

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Step 3

Trust resources list

Step 4

Conservation measures

Natural Resources of Concern

Back Continue...

An online Endangered Species Act species list is available on this page for your project area, represented by the office(s) listed below.

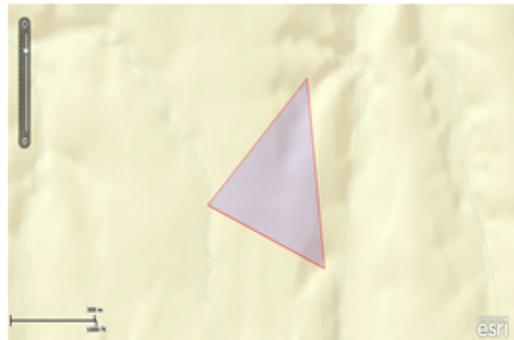
Save or Print the Preliminary Species list

Request an Official Species list

The Endangered Species Act species list below is for planning purposes only -- it is not an official species list. To request an official species list, click the Request an Official Species list link to the right and follow the instructions.

Kansas Ecological Services Field Office
2609 ANDERSON AVENUE
MANHATTAN, KS 66502
(785) 539-3474

Project Location Map:



Note: The map reflects the map layers selected on the Step 1 Location page. To change what appears on this map, return to the Location page and adjust the map layers.

Project Counties:

Wabaunsee, KS

Project type: Communications Tower

Endangered Species Act Species List (USFWS Endangered Species Program).

There are a total of 4 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the Has Critical Habitat column may or may not lie within your project area. See the Critical habitats within your project area section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Table with columns: Birds, Status, Has Critical Habitat, Contact

Endangered Species Act Species List ([USFWS Endangered Species Program](#)).

There are a total of 4 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fishes may appear on the species list because a project could cause downstream effects on the species. Critical habitats listed under the Has Critical Habitat column may or may not lie within your project area. See the [Critical habitats within your project area](#) section below for critical habitat that lies within your project area. Please contact the designated FWS office if you have questions.

Species that should be considered in an effects analysis for your project:

Birds	Status		Has Critical Habitat	Contact
Least tern (<i>Sterna antillarum</i>) Population: interior pop.	Endangered 	species info		Kansas Ecological Services Field Office
Piping Plover (<i>Charadrius melodus</i>) Population: except Great Lakes watershed	Threatened 	species info	Final designated critical habitat Final designated critical habitat	Kansas Ecological Services Field Office
Fishes				
Topeka shiner (<i>Notropis topeka (=tristis)</i>) Population: Entire	Endangered 	species info	Final designated critical habitat	Kansas Ecological Services Field Office
Mammals				
northern long-eared Bat (<i>Myotis septentrionalis</i>) Population:	Proposed Endangered 	species info		Kansas Ecological Services Field Office

[Don't see a species you expect to see?](#)

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#)).

There are no National Wildlife Refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#)).

Most species of birds, including eagles and other raptors, are protected under the Migratory Bird Treaty Act (16 U.S.C. 703). Bald eagles and golden eagles receive additional protection under the [Bald and Golden Eagle Protection Act](#) (16 U.S.C. 668). The Service's [Birds of Conservation Concern \(2008\)](#) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

Migratory bird information is not available for your project location.

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

There are no wetlands found within the vicinity of your project.

Threatened and Endangered Species

- If listed or proposed threatened or endangered species or designated or proposed critical habitats *are present* in the county or counties where the “action area” is located and would not be affected by the proposed antenna structure:
 - Explain how the applicant determined that there would be no effect and provide the materials (with citations) that formed the basis for this determination (e.g., maps or lists from relevant FWS databases).





Threatened and Endangered Species

- If the proposed antenna structure may affect, but is not likely to adversely affect, listed or proposed threatened or endangered species or designated or proposed critical habitats in the action area:
 - Provide a letter from FWS concurring with the applicant's informal biological assessment. If any measures are proposed to mitigate any effects on species or habitats, the assessment must outline those measures with FWS concurrence.
 - e.g., Indiana bat



Threatened and Endangered Species

- If present and if the proposed antenna structure may affect, and is likely to adversely affect, listed or proposed threatened or endangered species or listed or proposed designated critical habitats in the action area
 - Prepare a formal biological assessment as outlined in 50 C.F.R. § 402.01 *et seq.* The applicant should provide the formal biological assessment to the FCC for formal consultation with the FWS.



Biological Review Considerations

- Threatened and Endangered Species
- Migratory birds
- Bald Eagles and Golden Eagles

Estimated 4 million – 50 million bird fatalities at communication towers annually in U.S.

Almost all are violations of the Migratory Bird Treaty Act.



Detected Bird Mortality

- Most frequently detected
 - Songbirds
 - Vireos
 - Warblers
 - Thrushes
 - Sparrows
 - Shorebirds
 - Waterfowl

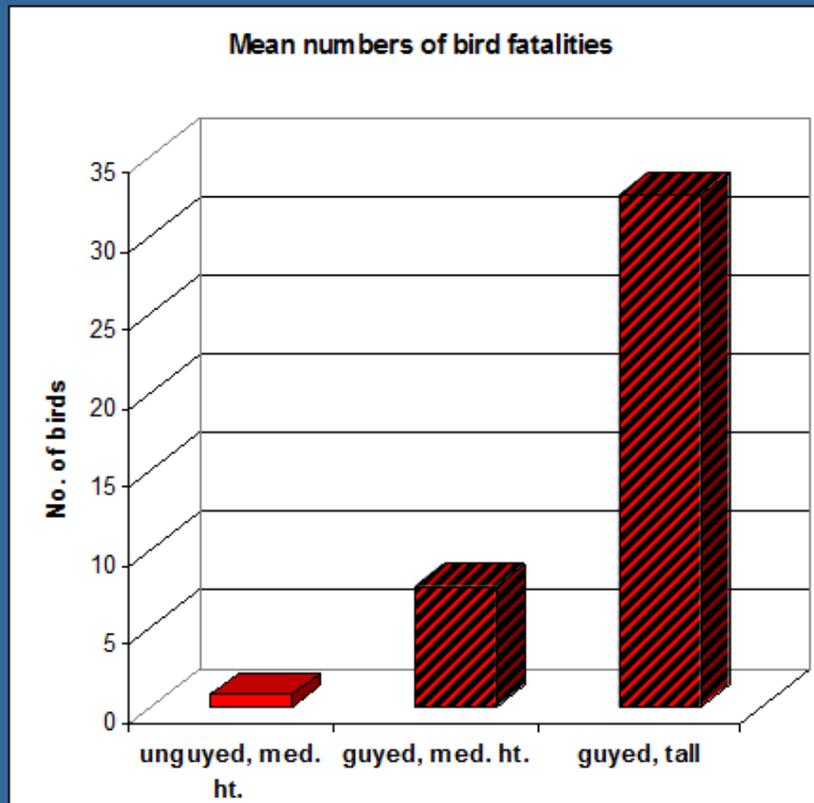


Variables Related to Bird Collisions

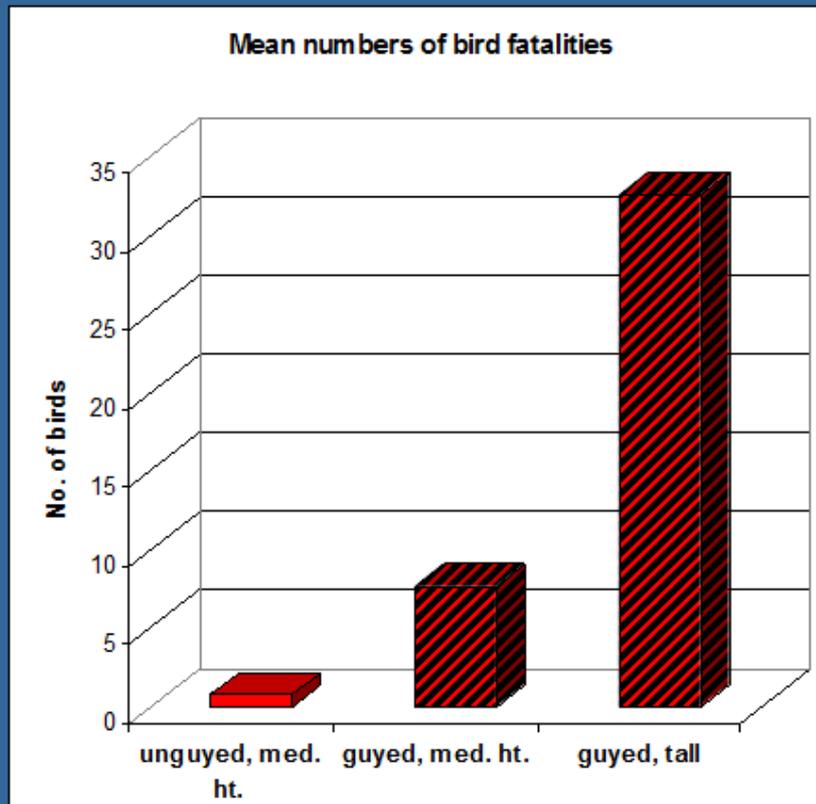
- Weather
- Tower support systems
- Tower heights
- Tower light systems
- Location in the landscape



Towers with guy wires result in higher levels of avian mortality than towers without guy wires.



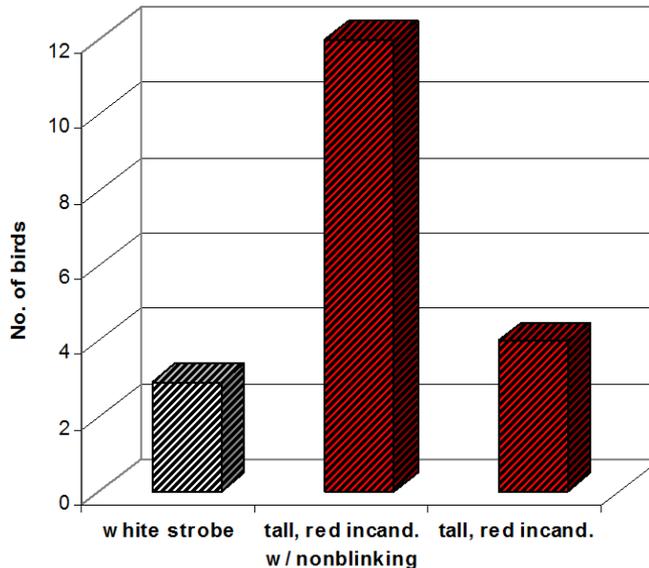
Taller towers result in higher levels of avian mortality than shorter towers.



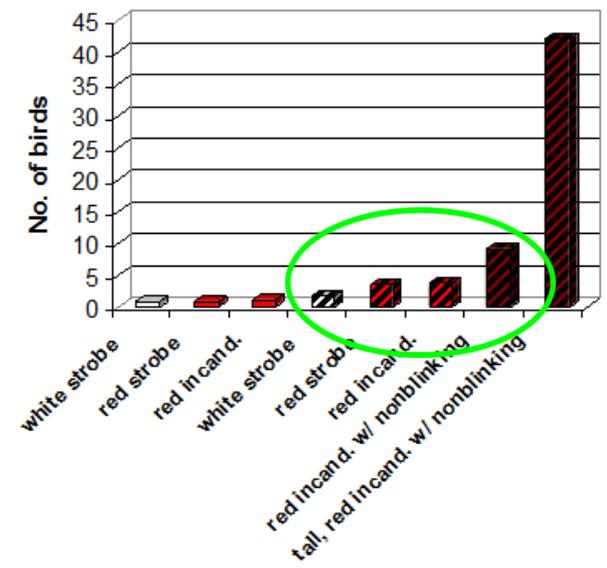


Steady-burning lights on towers result in higher levels of avian mortality than flashing lights.

Mean numbers of bird fatalities



Mean numbers of bird fatalities



50-70% reduction in fatalities via elimination of non-flashing lights

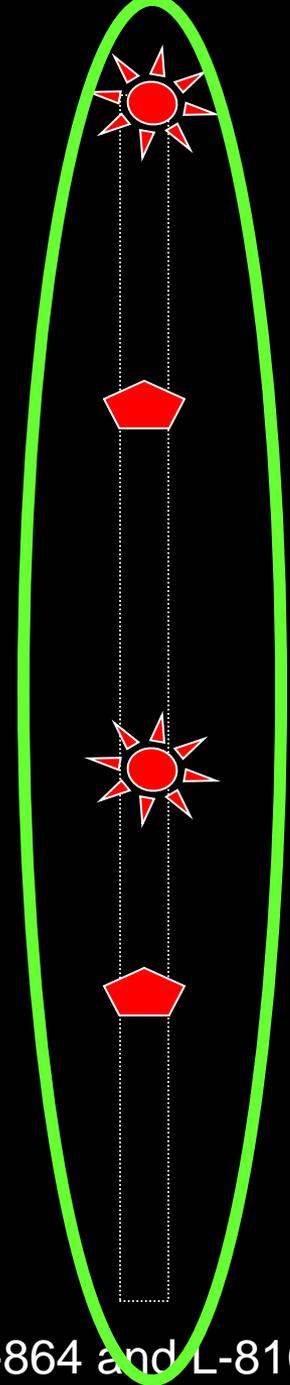


L-865

L-864

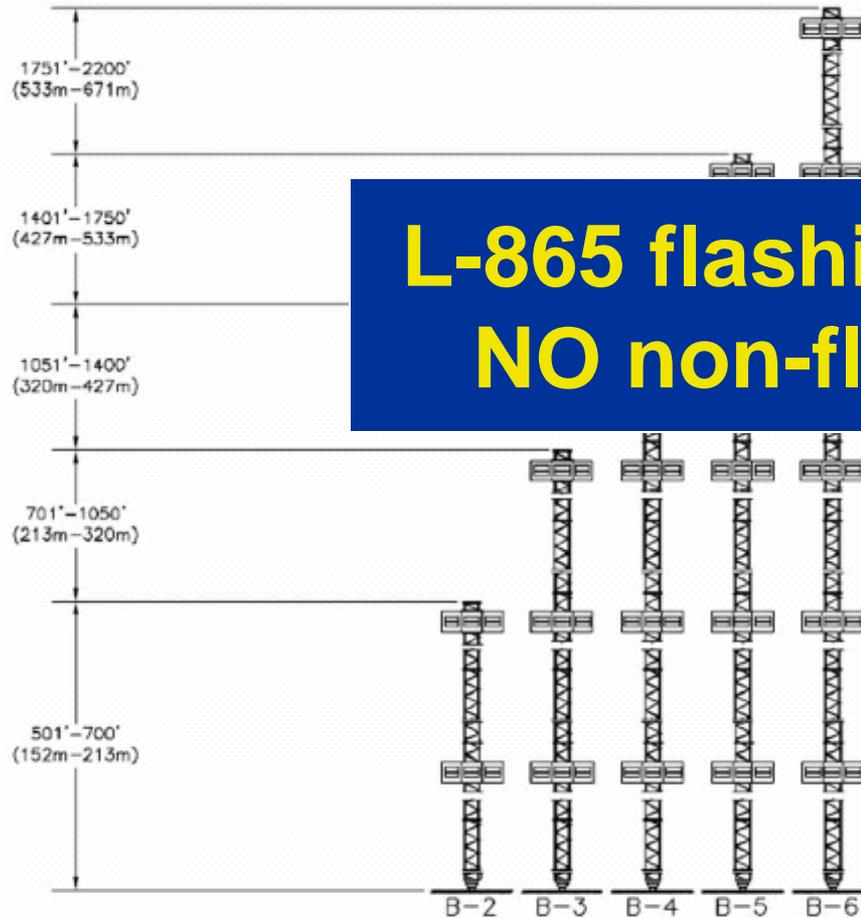
L-864

L-864 and L-810



HIGH INTENSITY OBSTRUCTION LIGHTING STANDARDS (FAA Style B)

Day Protection = 200,000cd White Strobe
Twilight Protection = 20,000cd White Strobe
Night Protection = 2,000cd White Strobe

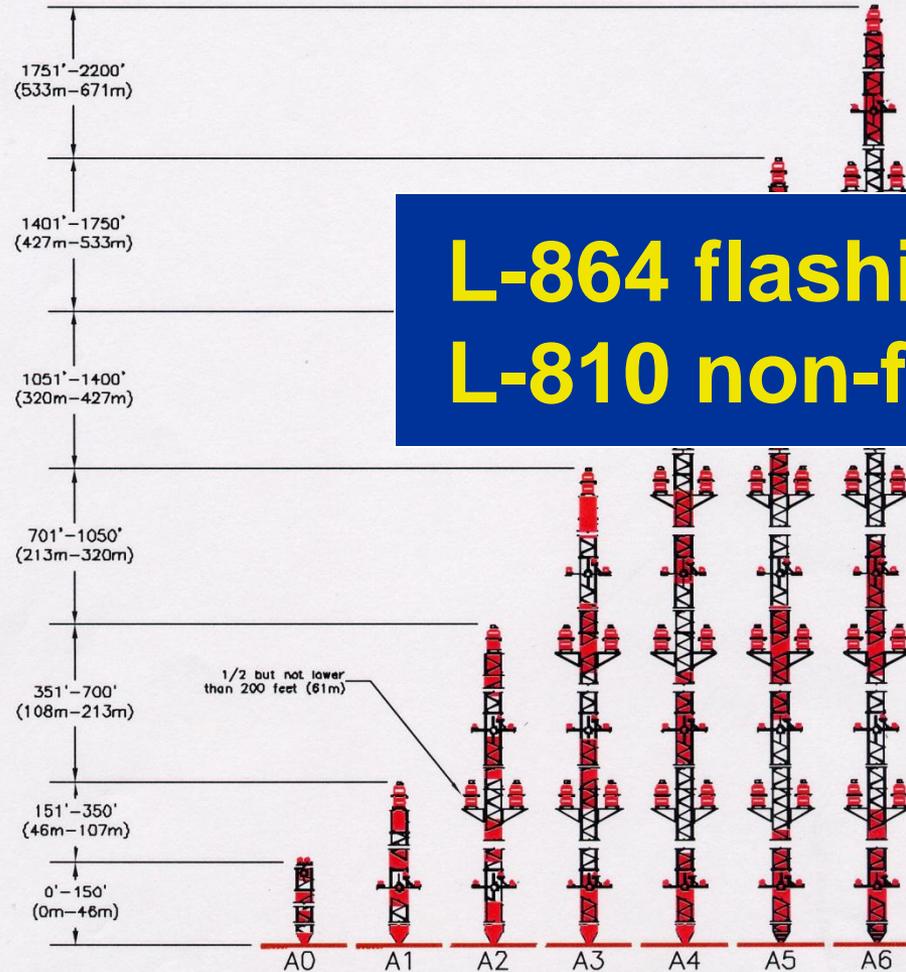


**L-865 flashing white
NO non-flashing**

 - L-856 High Intensity Strobe
(3 Flashheads required per level for 360° coverage)

RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
Night Protection = 2,000cd Red Beacon and sidelights



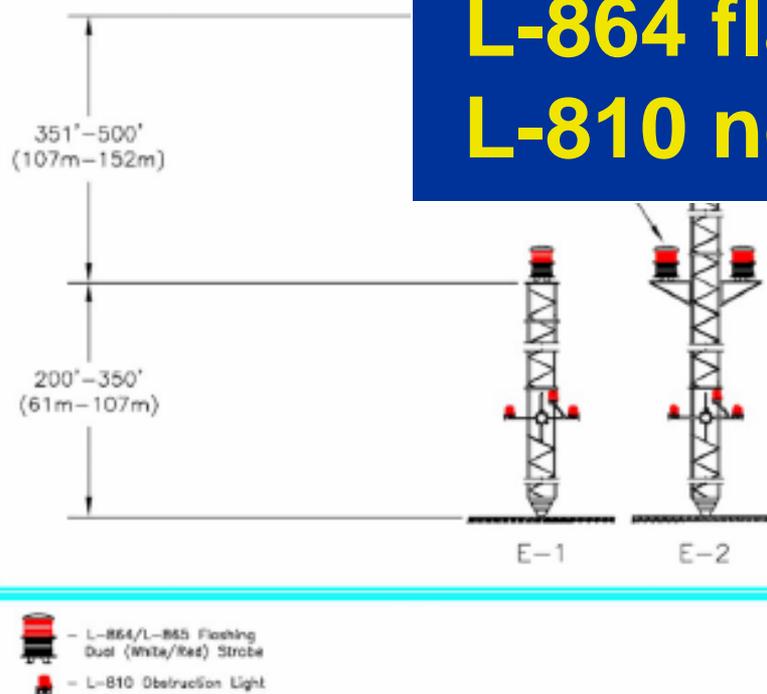
- L-864 Flashing Beacon



- L-810 Obstruction Light

MEDIUM INTENSITY DUAL OBSTRUCTION LIGHTING STANDARDS (FAA Style E)

Day/Twilight Protection = 20,000cd White Strobe
 Night Protection = 2,000cd Red Strobe and sidelights
 Painting of tower is typically not required.

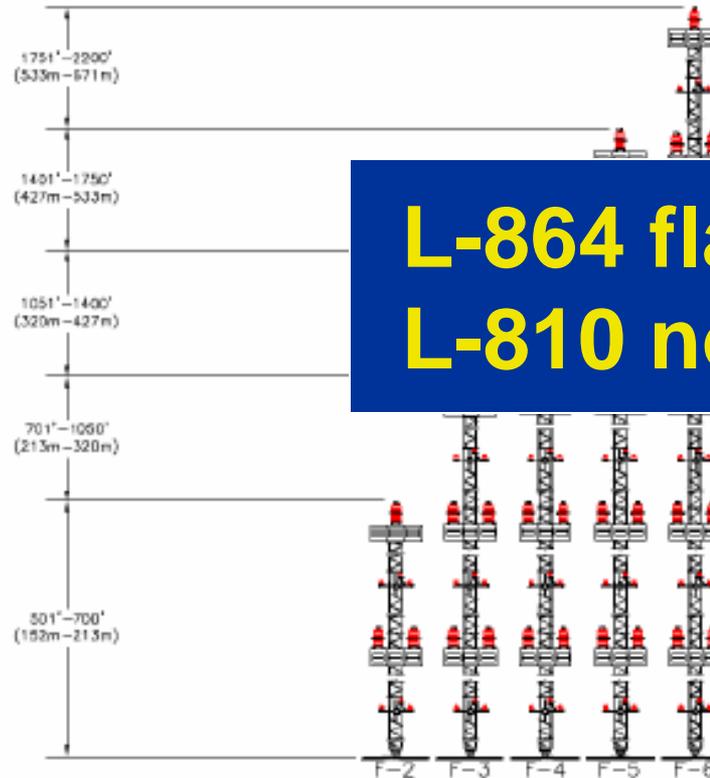


L-864 flashing red
L-810 non-flashing red

FIG 17

DUAL HIGH INTENSITY OBSTRUCTION LIGHTING STANDARDS (FAA Style F)

Day Protection = 200,000cd White Strobe
 Twilight Protection = 20,000cd White Strobe
 Night Protection = 2,000cd Red Beacon and sidelights

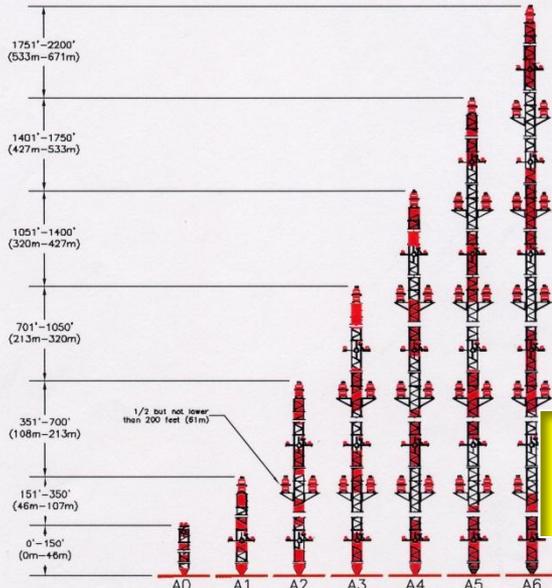


-  - L-864 Flashing Beacon
-  - L-810 Obstruction Light
-  - L-856 High Intensity Strobe
(3 flash/strobe required per level for 360° coverage)

FIG 18

RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
Night Protection = 2,000cd Red Beacon and sidelights



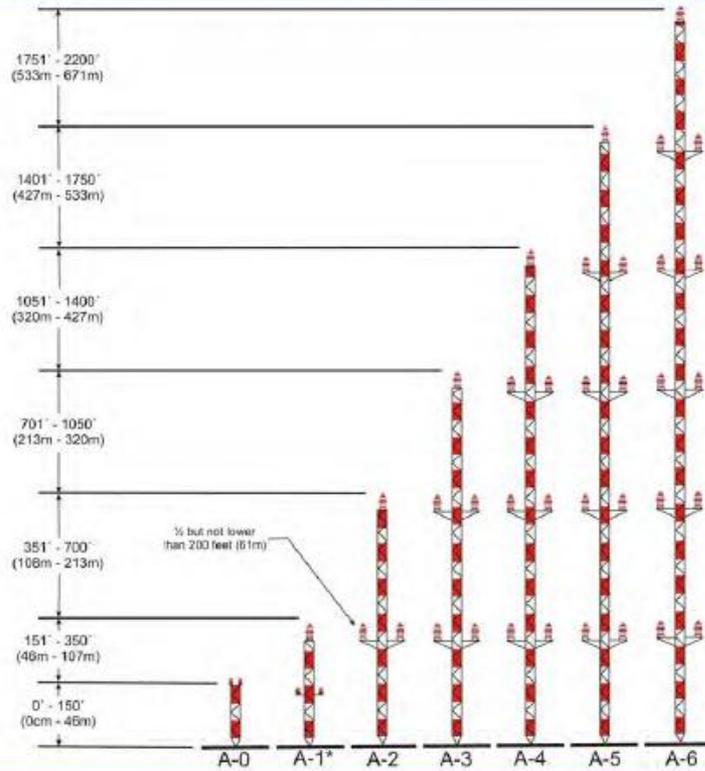
- L-864 Flashing Beacon
- L-810 Obstruction Light

New option to extinguish non-flashing lights from towers >350 ft. AGL which reduces tower lighting costs

APPENDIX C—PROPOSED FEDERAL AVIATION ADMINISTRATION OBSTRUCTION LIGHTING STYLES

PROPOSED RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
Night Protection = 2,000cd Red Beacon and sidelights

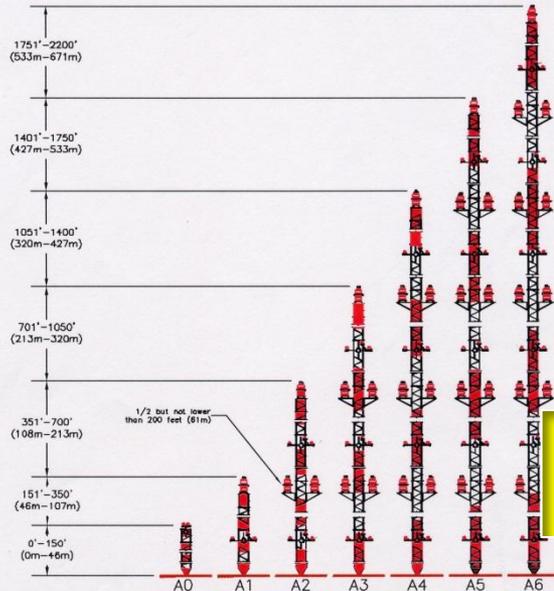


- L-864 Flashing Beacon
- L-810 Obstruction Light (*Configured to flash at same rate as L-864 on style A-1)

Figure C-1. Proposed Federal Aviation Administration Style A Lighting Configuration

RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
Night Protection = 2,000cd Red Beacon and sidelights



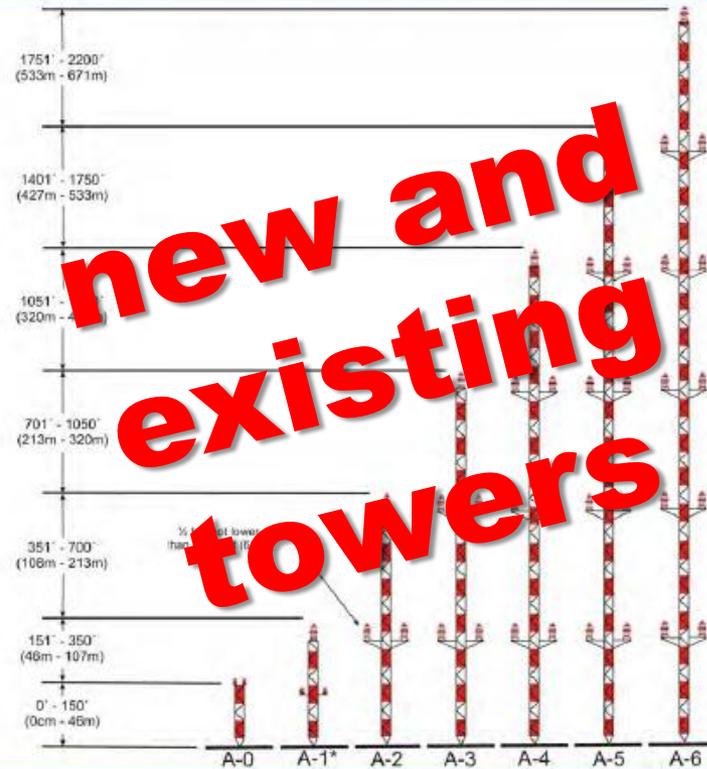
- L-864 Flashing Beacon
- L-810 Obstruction Light

New option to extinguish non-flashing lights from towers >350 ft. AGL which reduces tower lighting costs

APPENDIX C—PROPOSED FEDERAL AVIATION ADMINISTRATION OBSTRUCTION LIGHTING STYLES

PROPOSED RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
Night Protection = 2,000cd Red Beacon and sidelights



- L-864 Flashing Beacon
- L-810 Obstruction Light (*Configured to flash at same rate as L-864 on style A-1)

new and existing towers

Figure C-1. Proposed Federal Aviation Administration Style A Lighting Configuration



Lighting Deviation Process

- To extinguish or eliminate the L-810 tower lights/side-markers on an existing registered tower, or to request use of flashing red lights only on a proposed new tower, you must take the following steps:
 - File a Marking and Lighting study electronically with the FAA (<https://oeaaa.faa.gov/oeaaa/external/portal.jsp>) requesting the elimination or omission of steady-burning lights (L-810) with Form 7460-1, Notice of Proposed Construction or Alteration. Designate structure type: "Deviation from Red Obstruction Light Standards".



Lighting Deviation Process

- Once the FAA has approved the request and assigned a FAA Study Number, file Form 854 with the FCC via the Antenna Registration System (ASR). For an existing registered tower, please select “MD – Modification” and update the Lighting to “Option 3 – Other” and provide a description (Ex: Style E w/ Red Light Deviation). The FCC will typically approve the application and modify the registration within 24 hours. For a proposed new tower enter the Lighting as “Option 3 – Other,” and provide a description. FCC approval for a proposed tower is subject to the procedures and time periods described at <http://www.fcc.gov/help/environmental-notification-process-registration-antenna-structures-overview>.



Lighting Deviation Process

- Once the lighting change for an existing tower has been granted by the FCC via ASR, the steady-burning, side-marker, L-810 tower lights can be extinguished. This is typically accomplished in the tower transmission building and does not ordinarily require climbing the tower. For new towers, once the registration is granted, simply construct the tower without installing L-810 lights.



Migratory Birds

- Towers \geq 450 ft. (137 m) AGL
 - Prepare an Environmental Assessment including a section specifically addressing potential migratory bird impacts and efforts to reduce those impacts (e.g., tower lights, building lights, bird flight diverters)
 - Seek comment from the FWS on migratory birds
 - No red-steady lights
 - Motion-detector lighting on out buildings recommended

Migratory Birds

- Towers 350-450 ft. (107-137 m) AGL
 - No red-steady lights and motion-detector lighting on out buildings recommended







**For more information
contact:
Joelle.Gehring@FCC.gov**

