



Homeland
Security



UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE



BRIDGE LIGHTING AND OTHER SIGNALS



DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
MINIMUM LIGHTING FOR FIXED BRIDGES
33 CFR 118

All persons owning or operating bridges over the navigable waters of the United States or any international bridge constructed after March 23, 1906, shall maintain at their own expense the lights and other signals required .

Any person required to maintain lights and other signals upon any bridge or abutment over or in the navigable waters of the United States who fails or refuses to maintain such lights and other signals, or to obey any of the lawful rules and regulations relating to the same is subject to a penalty as provided in 14 U.S.C. 544.

No person shall obstruct or interfere with any lights or signals maintained in accordance with the regulations prescribed.

Any person violating the provisions of §118 shall be deemed guilty of a misdemeanor and be subject to a fine not exceeding \$500 for each offense. Each day during which such violation shall continue shall be considered a new offense.

Approval of lights and other signals required shall be obtained, prior to construction, from the District Commander of the area in which the structure will be situated. Application shall be by letter accompanied by duplicate sets of drawings showing (a) plan and elevation of the structure showing lights and signals proposed, and (b) small scale vicinity chart showing proposed bridge and all other bridges within 1,000 feet above or below the proposed bridge.

The Coast Guard District Commander receiving the application will review it and approve the lights and other signals proposed, or mark on the drawings, the lights and other signals required, and in the case of lights, cite the applicable section of this chapter which prescribes the lights required for the particular type bridge.

Upon approval, one set of drawings will be returned to the applicant with the notation "navigational lights and/or other signals approved as shown", date, name and title of the District Commander.

The Coast Guard District Commander may modify the requirements for the display of lights and other signals on any bridge when a change in local conditions warrants the modification.

The Coast Guard District Commander may exempt bridges over waterways with no significant nighttime navigation from the lighting or other signal requirements in this part.

The District Commander may prescribe special lighting or other signals in specific cases when the lighting or other signals in this part may not provide adequately for the safe passage of vessels. While a bridge is under construction, the District Commander prescribes the temporary lights and other signals to be displayed for the protection of navigation.

The owner of a bridge which constitutes a hazard to aerial navigation should maintain, in addition to the lights prescribed in this part, such lights as may be prescribed by the Administrator, Federal Aviation Administration.

Lights shall be displayed from sunset to sunrise and at other times when the visibility is less than one mile.

Operators shall not be required to exhibit the prescribed lights during seasons when vessels are unable to navigate in the vicinity of the bridge.

The operation of signals other than lights shall be as prescribed by the Coast Guard District Commander. Each case shall be considered individually.

All lights required or authorized under this part must be securely attached to the structure and of sufficient candlepower as to be visible against the background lighting at a distance of at least 2,000 yards 90 percent of the nights of the year. Lights must meet the requirements of this part. Lights shall be fixed lights excepting as provided in §§118.95, 118.110 and 118.150 of this part. Color specifications are not prescribed for bridge lights, however, the chromaticity standards for navigation lights in 33 CFR Part 84—Annex I are recommended.

The green lights shall each show through a horizontal arc of 360°; they shall be securely mounted just below the outermost edge of the bridge span structure so as to be visible from an approaching vessel. Each red light shall show through a horizontal arc of 180°, and shall be securely mounted just below the outermost edge of the bridge span structure to show 90° on either side of a line parallel to the axis of the channel so as to be visible from an approaching vessel.

Bridges crossing a body of water at an angle other than 90° with the axis of the channel shall be lighted in accordance with the regulations in this part with such modifications as are necessary in each particular case. Lights on sheer booms, isolated piers, obstructions, and other structures not part of a bridge or approach structure must meet the requirements for aids to navigation in Subpart 66.01 of Part 66 of this chapter. The District Commander may require painting the sides of bridge channel piers below the superstructure facing traffic white or yellow when they are significantly darkened by weathering or other causes so as to be poorly visible against a dark background.

When necessary for reasons of safety of navigation, the Coast Guard District Commander may require or authorize the installation of clearance gauges. Except as specified in §117.47(b) of this chapter for certain drawbridges, clearance gauges must meet the requirements of this section.

Clearance gauges must indicate the vertical distance between "low steel" of the bridge channel span (in the closed to navigation position for drawbridges) and the level of the water, measured to the bottom of the foot marks, read from top to bottom. Each gauge must be installed on the end of the right channel pier or pier protection structure facing approaching vessels and extend to a reasonable height above high water so as to be meaningful to the viewer. Other or additional locations may be prescribed by the District Commander if particular conditions or circumstances warrant.

Construction. Each gauge must be permanently fixed to the bridge pier or pier protection structure and made of a durable material of sufficient strength to provide resistance to weather, tide, and current. Gauges may be painted directly on the bridge channel pier or pier protection structure if the surface is suitable and has sufficient width to accommodate the foot marks (graduations) and numerals. Numerals. (1) Each gauge must be marked by black numerals and foot marks on a white background. Paint, if used, must be of good exterior quality, resistant to excessive chalking or bleeding. Manufactured numerals and background material may be used.

The length of the foot marks must be no less than the width of a single numeral used (except numerals 1 and 4), be the same thickness as the width of stroke of the numeral, and extend to the nearest margin of the white background. Foot marks must be spaced every foot for nominal day visibility of less than 500 feet, every two feet for a nominal day visibility of more than 500 feet but less than 1,000 feet, and every five feet for nominal day visibility of more than 1,000 feet.

Intermediate foot marks may be used when more precise determination of actual clearance is necessary. Such intermediate foot marks must have a width of stroke one-half the width of the stroke required for the numeral and shall be three-quarters as long as the primary foot marks.

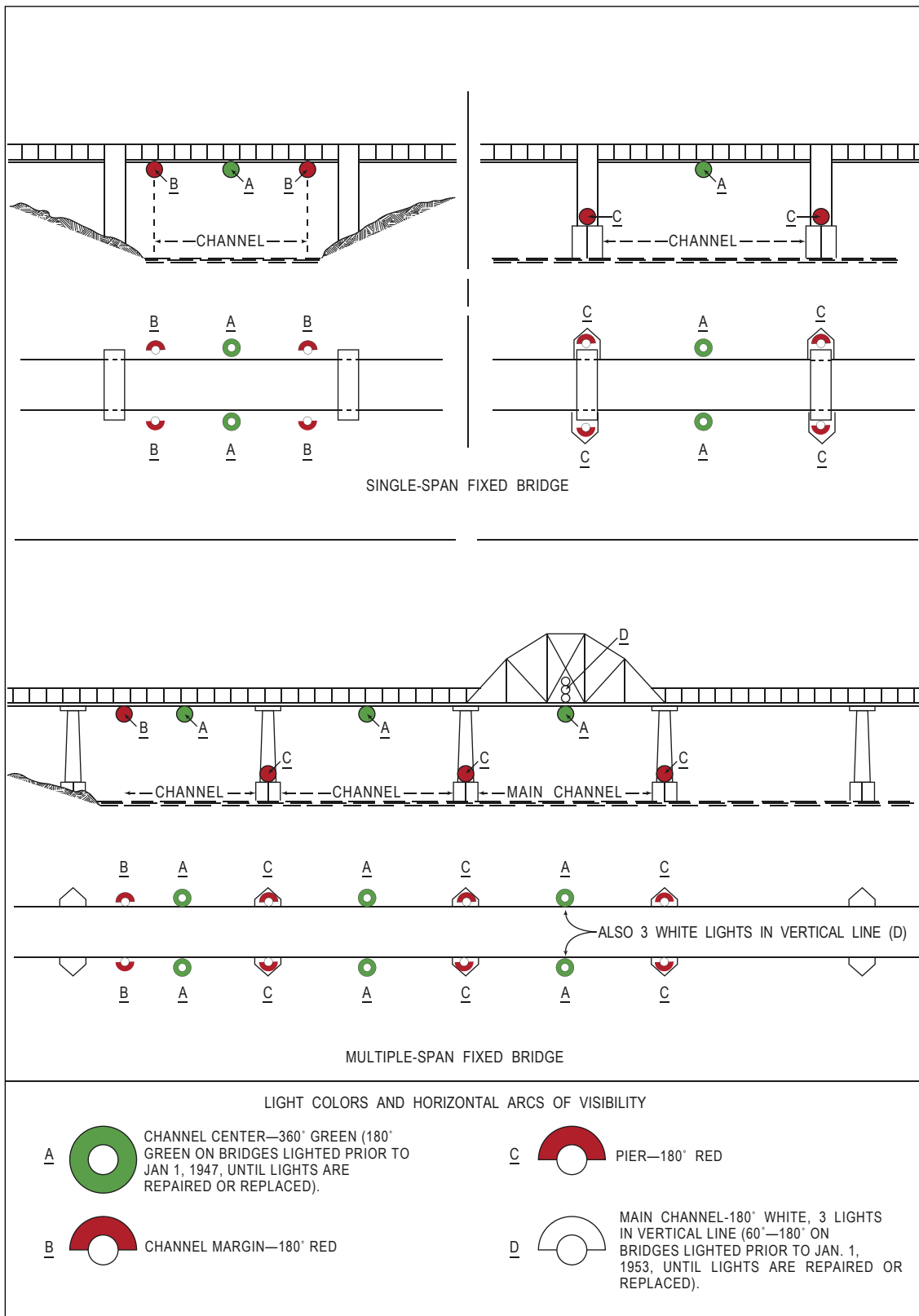
The horizontal distance between the numeral and nearest edge of the white background shall be no less than one-half the width of a single numeral (excepting numerals 1 and 4).

The minimum width of the white background shall be no less than three times the width of a single numeral (excepting numerals 1 and 4) plus the widths of each additional numeral (when multiple numerals are used plus numeral spacing).

Maintenance. The owner or operator of the bridge shall maintain each gauge in good repair and legible condition. The bridge owner or operator is responsible for the accuracy of the gauge and shall remeasure the vertical distance of the numerals and foot marks below "low steel" of the bridge whenever the gauge is repainted or the structure is repaired.



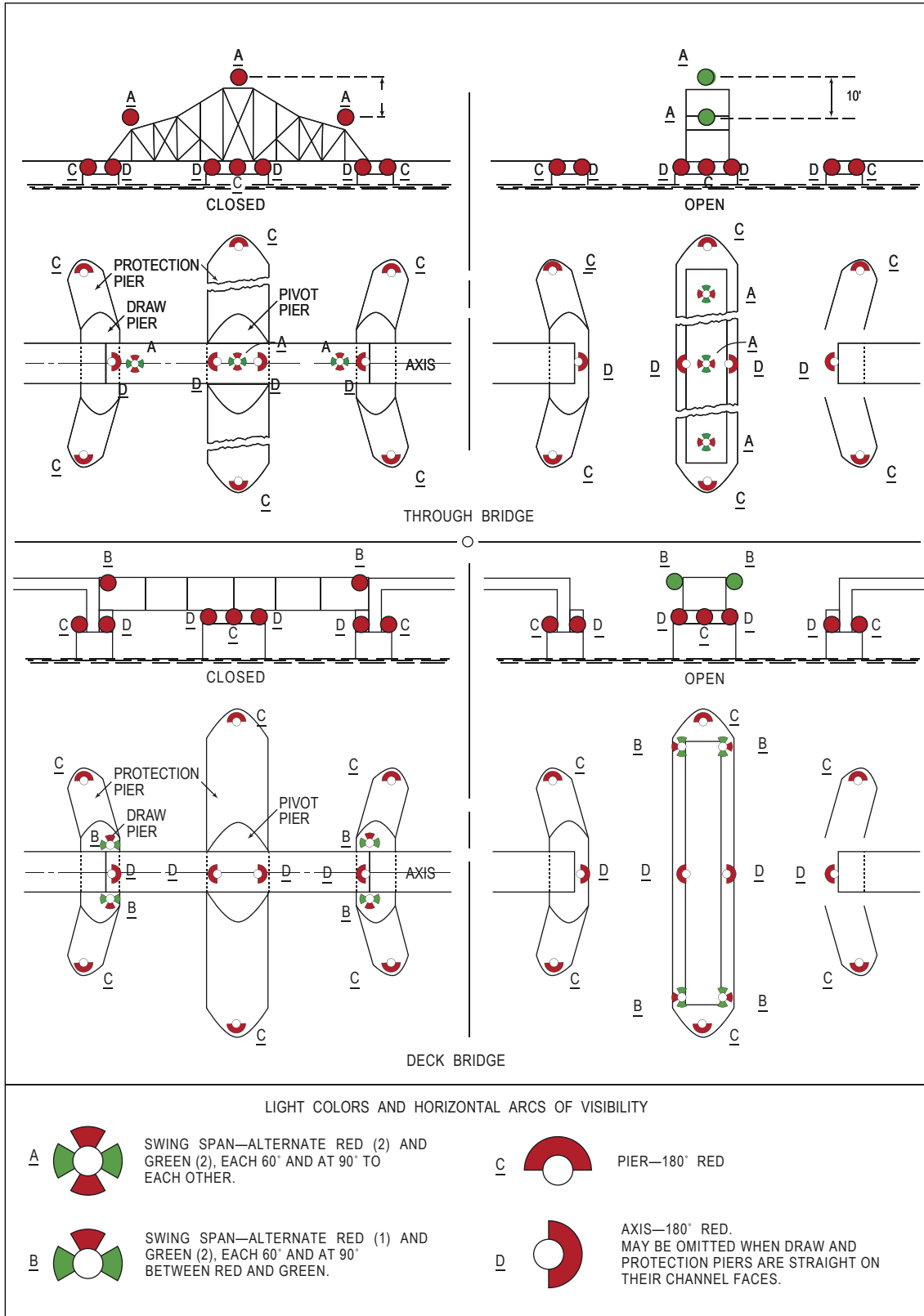
DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
MINIMUM LIGHTING FOR FIXED BRIDGES
33 CFR 118.65





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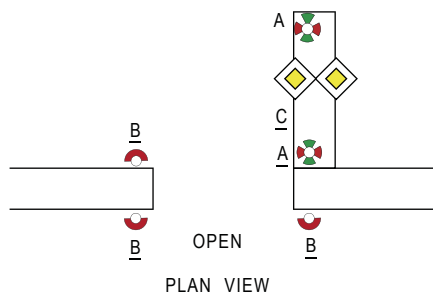
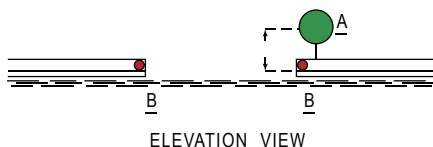
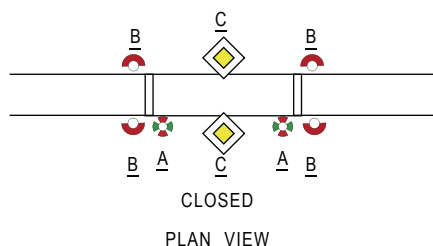
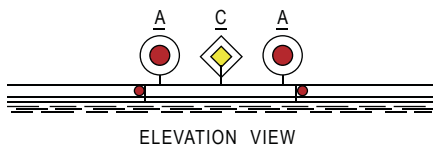
MINIMUM LIGHTING FOR DOUBLE-OPENING SWING BRIDGES
33 CFR 118.70



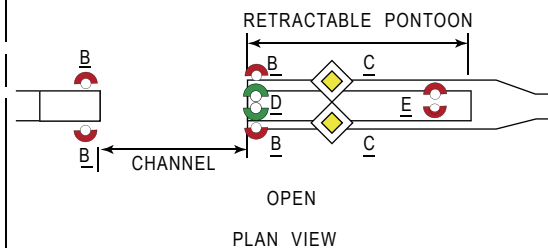
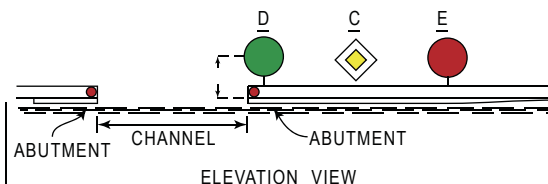
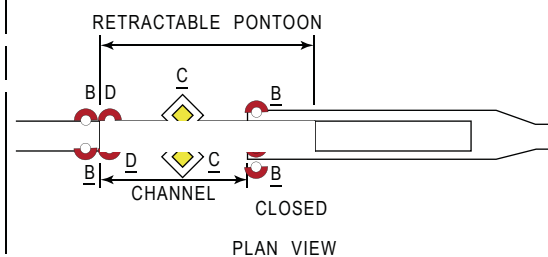
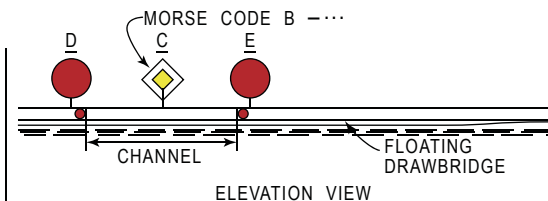


DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
MINIMUM LIGHTING FOR SINGLE-OPENING DRAWBRIDGES
33 CFR 118.75

FLOATING SWINGSPAN DRAWBRIDGE



FLOATING RETRACTABLE DRAWBRIDGE



LIGHT COLORS AND HORIZONTAL ARCS OF VISIBILITY



A DRAW SPAN—ALTERNATE RED (2) AND GREEN (2), EACH 60° AND AT 90° TO EACH OTHER.

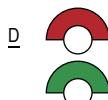


B PIER OR ABUTMENT—180° RED



C AT CENTERLINE OF THE NAVIGATION CHANNEL DRAWSPAN OF FLOATING DRAWBRIDGES, DIAMOND IN SHAPE, YELLOW IN COLOR WITH HIGH INTENSITY RETROREFLECTIVE MATERIAL BORDER AND MAY EXHIBIT A MORSE CODE B YELLOW LIGHT. THE MARK SHALL NOT BE VISIBLE WHEN THE DRAWSPAN IS IN THE OPEN POSITION.

(33 CFR 118.110(c)).



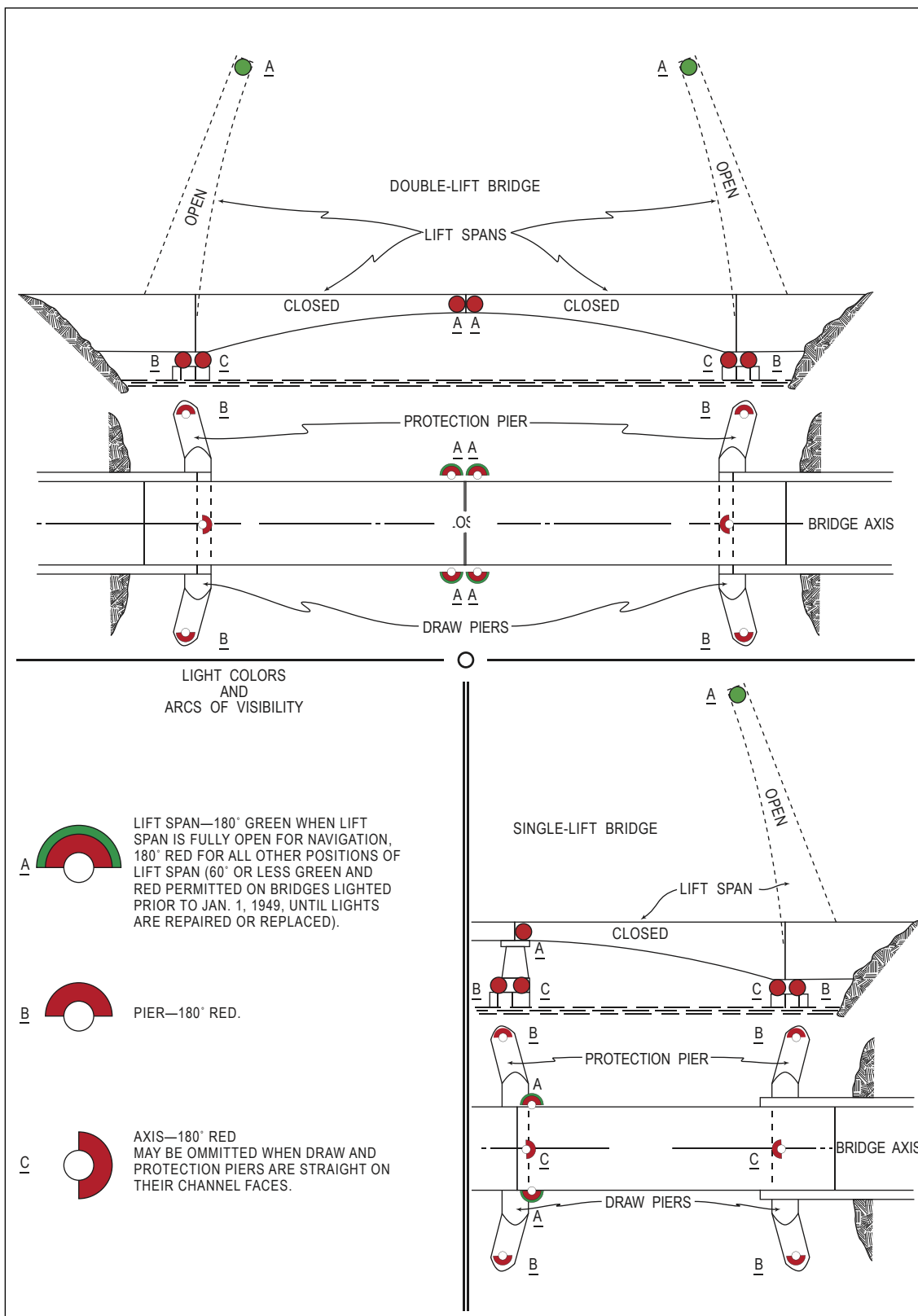
D RETRACTABLE PONTOON
—DRAWSPAN CLOSED—180° RED
—DRAWSPAN OPEN—180° GREEN



E RETRACTABLE PONTOON
—DRAWSPAN CLOSED—180° RED
—DRAWSPAN—LIGHT OFF

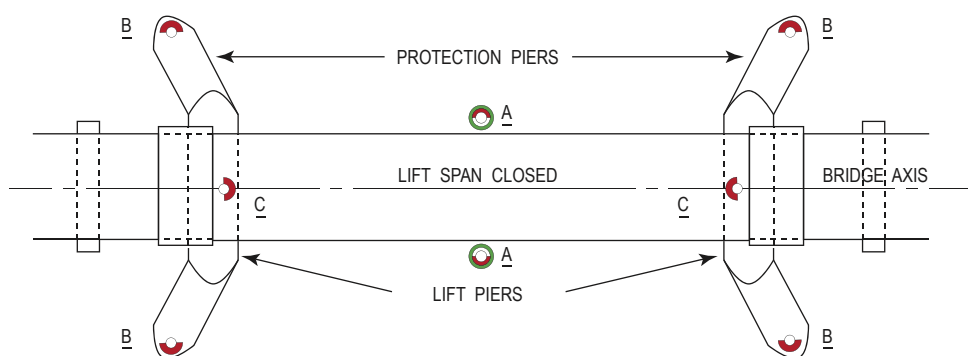
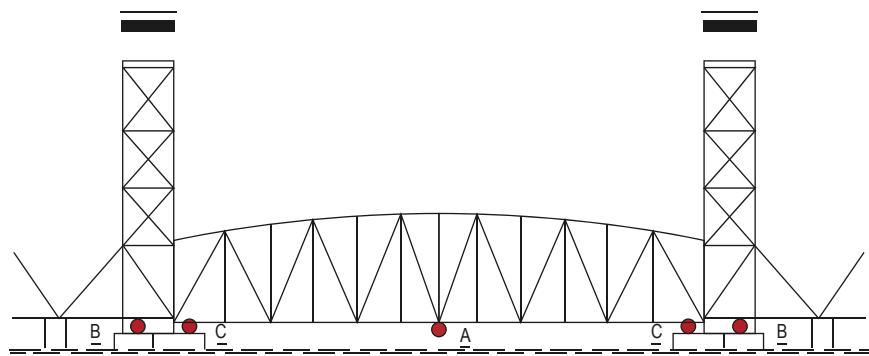
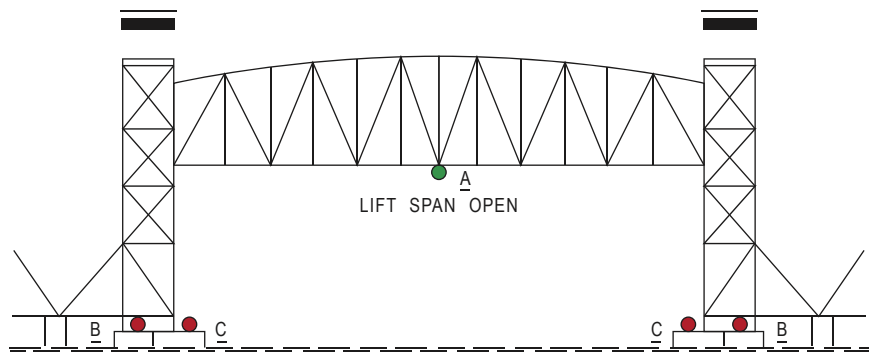


DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
MINIMUM LIGHTING FOR BASCULE BRIDGES
33 CFR 118.80





DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
MINIMUM LIGHTING FOR VERTICAL LIFT BRIDGES
33 CFR 118.85



LIGHT COLORS AND HORIZONTAL ARCS OF VISIBILITY



LIFT SPAN—360° GREEN WHEN LIFT SPAN IS FULLY OPEN FOR NAVIGATION, 180° RED FOR ALL OTHER POSITIONS OF LIFT SPAN (180° GREEN AND RED PERMITTED ON BRIDGES LIGHTED PRIOR TO JAN 1, 1949, UNTIL LIGHTS ARE REPAIRED OR REPLACED).

B



PIER—180° RED

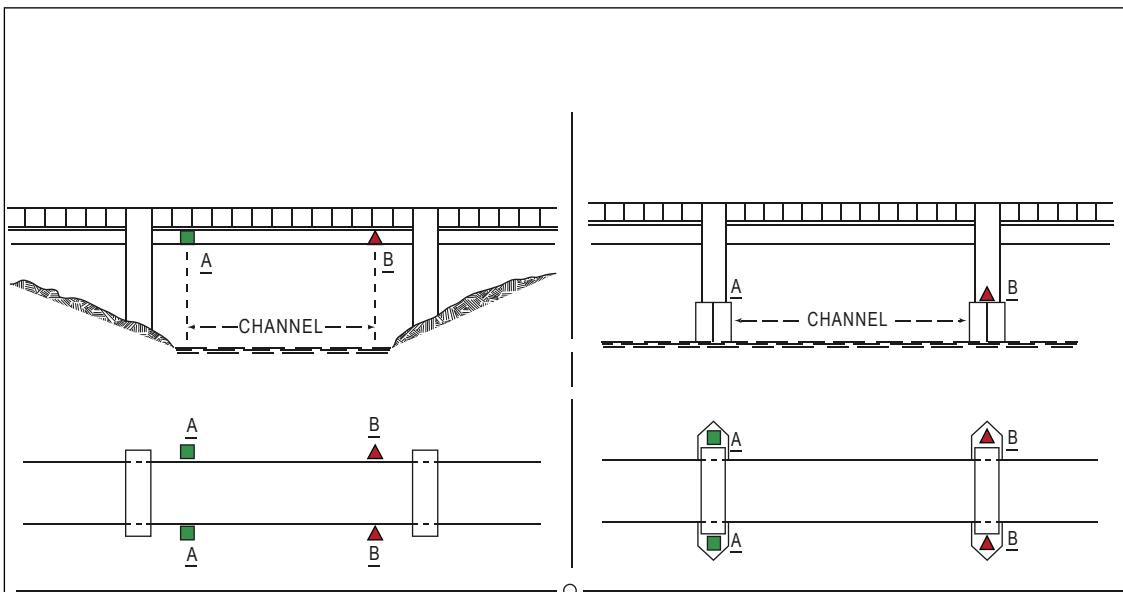
C



AXIS—180° RED. MAY BE OMITTED WHEN LIFT AND PROTECTION PIERS ARE STRAIGHT ON THEIR CHANNEL FACES.



DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
RETROREFLECTIVE PANELS ON BRIDGE PIERS
33 CFR 118.100



PANEL SIZE AND COLORS



A GREEN SQUARE RETROREFLECTIVE PANELS SHALL BE USED. THE PANELS SHALL BE AT LEAST 36 SQUARE INCHES IN AREA TO PROVIDE A NOMINAL NIGHTTIME VISIBILITY DISTANCE OF AT LEAST ONE-HALF MILE.

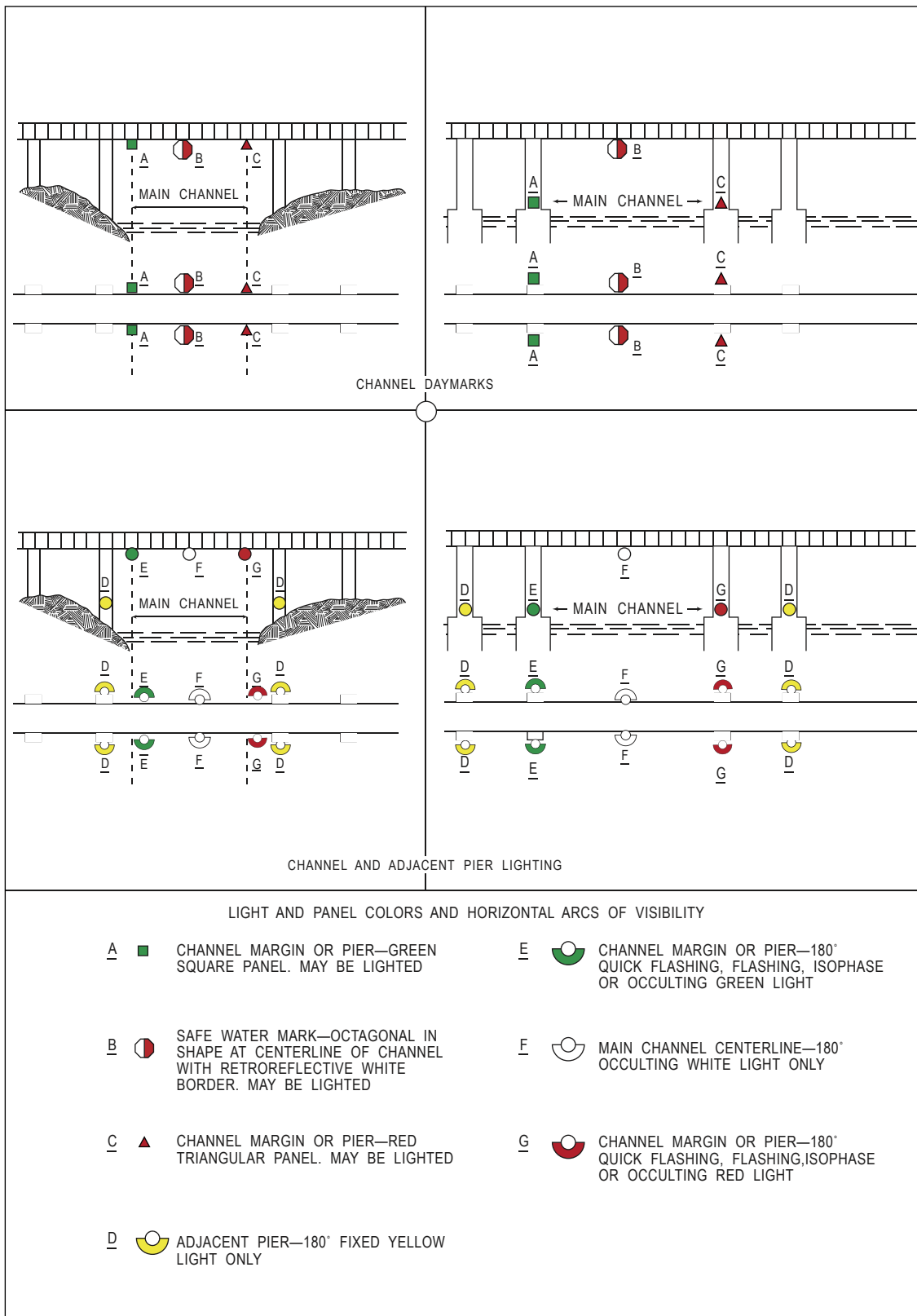


B RED TRIANGULAR RETROREFLECTIVE PANELS SHALL BE USED. THE PANELS SHALL BE AT LEAST 36 SQUARE INCHES IN AREA TO PROVIDE A NOMINAL NIGHTTIME VISIBILITY DISTANCE OF AT LEAST ONE-HALF MILE.

NOTE: RETROREFLECTIVE PANELS MAY ALSO BE REQUIRED OR AUTHORIZED AS A BACK UP FOR BRIDGE LIGHTING (SEE 33CFR 118.100(b)).



DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
DAYMARKS AND LATERAL LIGHTING ON BRIDGES
33 CFR 118.110



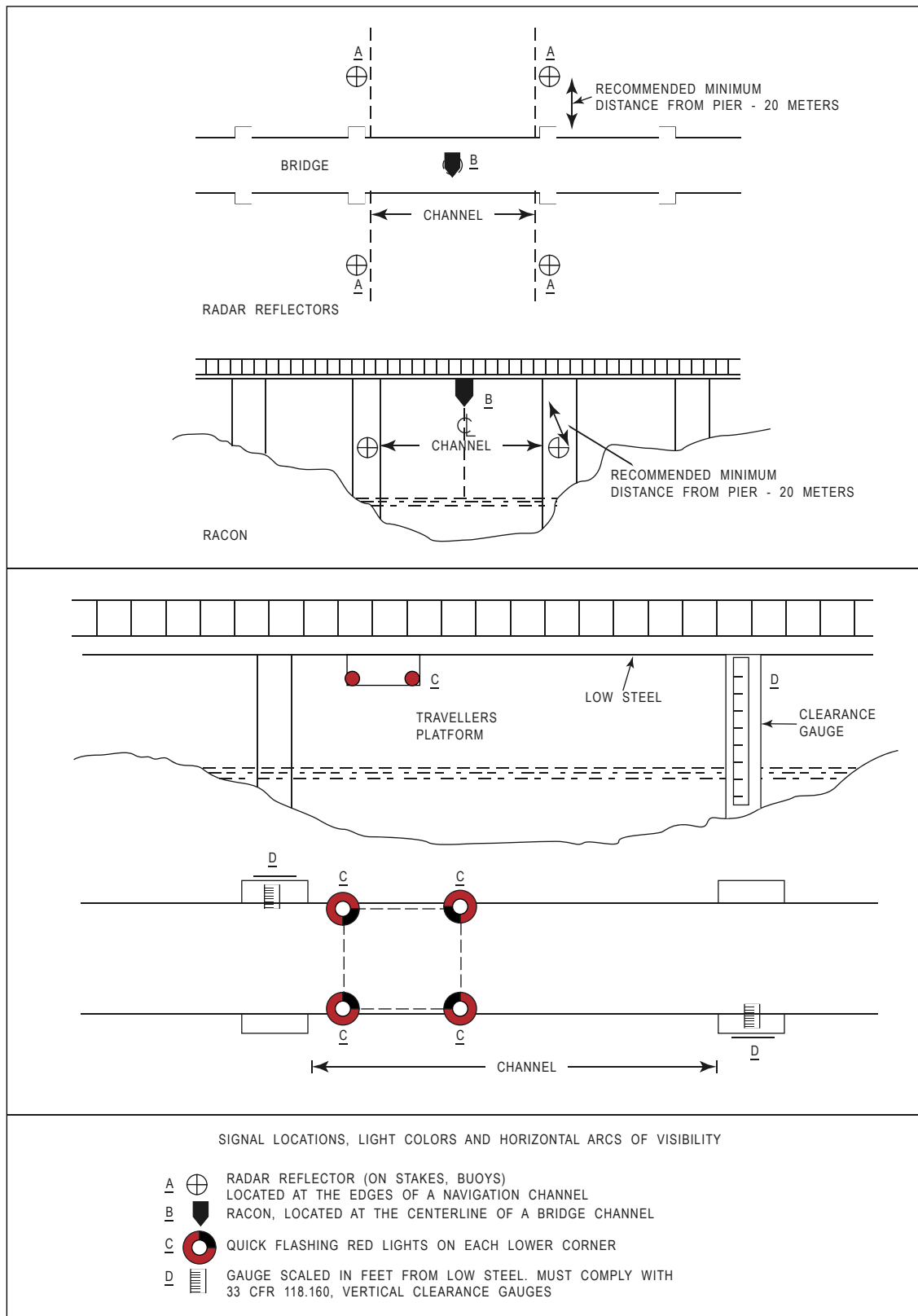


DEPARTMENT OF HOMELAND SECURITY UNITED STATES COAST GUARD BRIDGE PROGRAM OFFICE

RADAR REFLECTORS AND RACONS 33 CFR 118.120

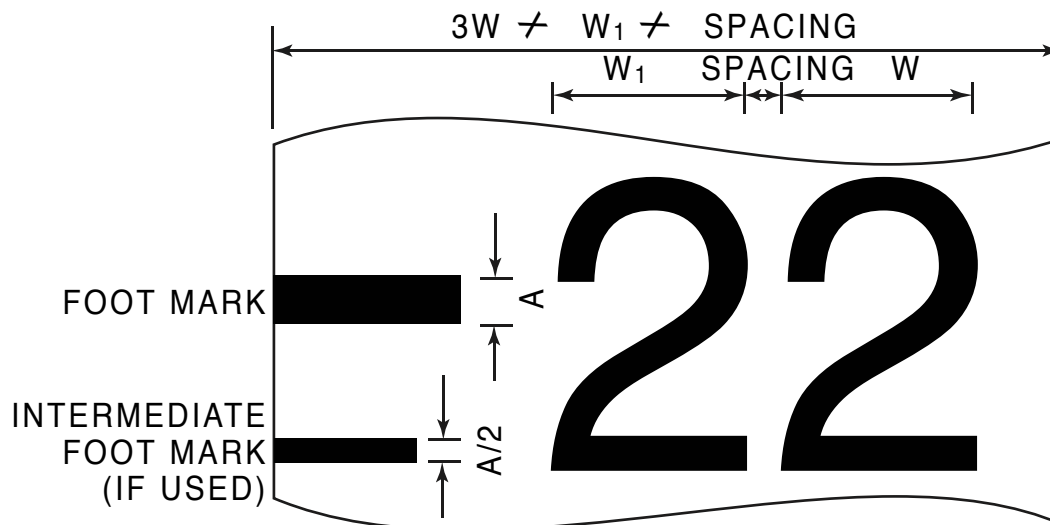
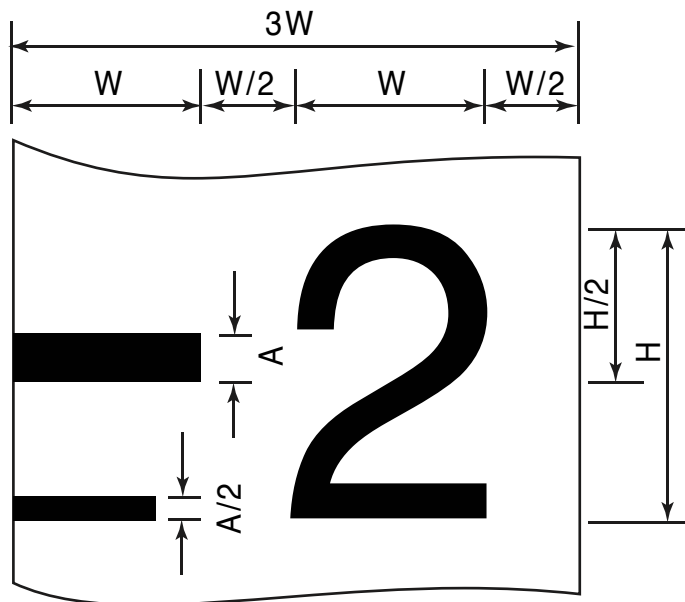
TRAVELLER PLATFORMS 33 CFR 118.150

CLEARANCE GAUGES 33 CFR 118.160





DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
STANDARD BRIDGE CLEARANCE GAUGE
33 CFR 118.160



LEGEND

NOTE: SIZE, TYPE AND SPACING
OF NUMERALS SHALL
CONFORM TO THE
FEDERAL HIGHWAY
ADMINISTRATION
"STANDARD ALPHABET
FOR HIGHWAY SIGNS"

W WIDTH OF WIDEST SINGLE
NUMERAL EXCLUDING NUMERAL 4
H HEIGHT OF NUMERAL
PRESCRIBED FOR DISTANCE
VISIBILITY
A WIDTH OF STROKE



DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE PROGRAM OFFICE
HEIGHT AND VERTICAL SPACING
FOR CLEARANCE GAUGE NUMERALS
33 CFR 118.160

